SMITHCO

Wayne, Pennsylvania 19087

OPERATOR'S PARTS & SERVICE MANUAL

SWEEP STAR P48

Model 7-600-B Low Dump Hydraulic Drive P48HLD
Model 7-700-B High Dump Engine Drive P48HE
Model 7-800-B High Dump Hydraulic Drive P48HHL

Starting Serial # P48HHL/P48HLD/P48HE - 7892

August, 2005

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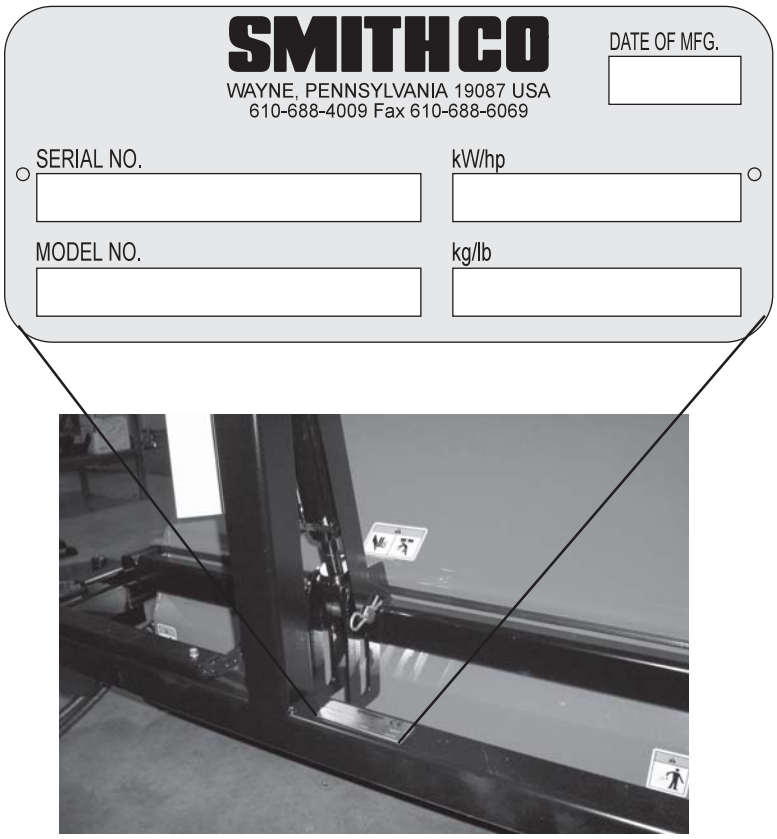
Thank you for purchasing a **SMITHCO** product.

Read this manual and all other manuals pertaining to the Sweep Star P48 carefully as they contain safety, operating, assembly and maintenance instructions. Failure to do so could result in personal injury or equipment damage.

Keep manuals in a safe place after operator and maintenance personnel have read them. Right and left sides are from the operator's seat, facing forward.

All **SMITHCO** machines have a Serial Number and Model Number. Both numbers are needed when ordering parts. The serial number plate on the Sweep Star P48 is located on the front cross member of the frame next to the cylinder arm.

For easy access record your Serial and Model numbers here.



Information needed when ordering replacement parts:

1. Model Number of machine
2. Serial Number of machine
3. Name and Part Number of part
4. Quantity of parts

SAFE PRACTICES

1. It is your responsibility to read this manual and all publications associated with this machine (engine, accessories and attachments).
2. Never allow anyone to operate or service the machine or its attachments without proper training and instructions. Never allow minors to operate any equipment.
3. Learn the proper use of the machine, the location and purpose of all the controls and gauges before you operate the equipment. Working with unfamiliar equipment can lead to accidents.
4. Wear all the necessary Personal Protective Equipment (PPE) to protect our head, eyes, ears, hands and feet. Operate the machine only in daylight or in good artificial light.
5. Inspect the area where the equipment will be used. Beware of overhead obstructions and underground obstacles. Stay alert for hidden hazards.
6. Never operate equipment that is not in perfect working order or without decals, guards, shields, or other protective devices in place.
7. Never disconnect or bypass any switch.
8. Carbon monoxide in the exhaust fumes can be fatal when inhaled, never operate a machine without proper ventilation.
9. Never use your hands to search for oil leaks. Hydraulic fluid under pressure can penetrate the skin and cause serious injury.
10. This machine demands your attention. To prevent loss of control or tipping of the vehicle:
    A. Use extra caution in backing up the vehicle. Ensure area is clear.
    B. Do not stop or start suddenly on any slope.
    C. Reduce speed on slopes and in sharp turns. Use caution when changing directions on slopes.
    D. Stay alert for holes in the terrain and other hidden hazards.
    E. Operate equipment up and down slopes, never across the face.
11. Before leaving operator's position for any reason:
    A Disengage all drives.
    B. Lower all attachments to the ground.
    C. Shut engine off and remove the ignition key.
12. Keep hands, feet and clothing away from moving parts. Wait for all movement to stop before you clean, adjust or service the machine.
13. The rubber fingers, sweeper and vacuum pick up and propel debris and small objects in machines path during operation. Keep the area of operation clear of all bystanders.
14. Never carry passengers.
15. Use parts and materials supplied by **SMITHCO** only. Do not modify any function or part.
16. Avoid sharp turns. Watch the tires of the tractor while turning to make sure they do not contact the tongue of the Sweep Star P48.
17. Shut down power source before attempting to unclog any part of the machine.
18. If reel deck begins to vibrate abnormally, immediately shut off power and determine the cause.

These machines are intended for professional maintenance on golf courses, sports turf, and any other area maintained turf and related trails, paths and lots. No guaranty as to the suitability for any task is expressed or implied.

SPECIFICATIONS FOR SWEEP STAR P48

WEIGHTS AND DIMENSIONS

Length	144 in (367 cm)
Width	87 in (221 cm)
Height	60 in (152 cm)
Weight	1550 lbs (703 kg)

TIRES & WHEELS — Two 24 - 13 x 12 (18 psi (1.3 bar)) Turf Tires

HYDRAULICS

Minimum Hydraulic working pressure 2000 PSI (13790 kPa) at 3 gpm (12 lpm)
Supply pressure not to exceed 2250 PSI (15513 kPa) at 6 gpm (23 lpm)

ENGINE (P48HE)

Briggs and Straton 7.5 hp (5.5 kW)

TOW VEHICLE

Minimum drawbar power of 20 HP (15 kW)
Heavy Duty Vehicle with 4 wheel brakes

HYDRAULIC DRIVE HOSE KITS

7-850	Hose Kit for Jacobsen Turf Truckster
7-851	Hose Kit for John Deere Pro Gator
7-852	Hose Kit for Toro Workman
7-853	Hose Kit for use with Tractor

ACCESSORIES

7-702	5th Wheel Hitch Assembly
7-703	Standard Hitch Assembly

SETUP

The Sweep Star P48 arrives from SMITHCO with some setup required.

1. The tongue and wheel will need to be installed.
2. You will need a tow vehicle to move the Sweep Star P48. The Sweep Star P48 has a Clevis Hitch that will need a $^{3}/_{4}$ diameter by 4" pin with some type of lock.
3. Remove tires from pallet. Tires are banded so take caution when cutting bands. Place tires on axle.
4. Remove tongue from pallet. Install the tongue and place jack in upright position.
5. Crank the jack up so you can hook to tow vehicle.
6. Check the tire pressure. 18 psi (1.3 bar).
7. Check hydraulic fluid level in tank on tow vehicle.
8. Machine should be greased before starting. See Maintenance part of manual.
9. Read operating instructions before starting.

OPERATION

Before operating this machine, become familiar with all controls and functions of this unit and the tow vehicle. Also complete all maintenance requirements and read all safety warnings. By knowing both machines thoroughly, how it operates and by doing the prescribed maintenance steps, you can expect relatively trouble-free operation for years to come.

TOW VEHICLE

You will need a heavy duty vehicle with 4 wheel brakes with a **clevis hitch** and a $^{3}/_{4}$ diameter by 4" pin with some type of lock.

DAILY CHECKLIST

1. Check engine oil level in tow vehicle. Add as needed. DO NOT OVERFILL.
2. Tire pressure should be 18 psi (1.3 bar) on Sweep Star P48
3. Check hardware for loose or missing nuts, bolts, screws, etc., and tighten or replace as needed.
4. Inspect hydraulic lines for damage or leaks. Never use hands to inspect leaks.
5. Check hydraulic fluid level in tank on tow vehicle.
6. Check controls for smooth, proper working operation. Lubricate as needed.
7. Check and clean all debris from reel housing.

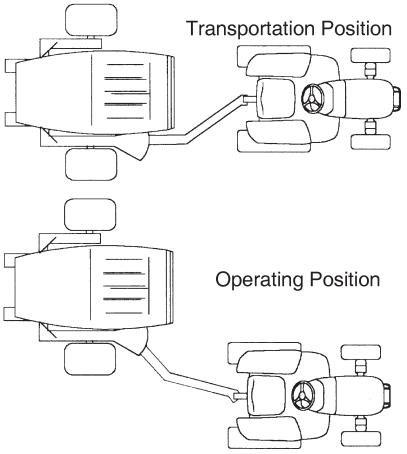
OPERATION SAFETY

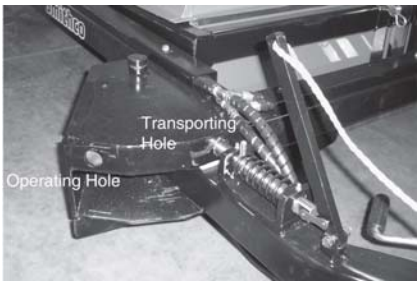
1. Before operation check to see that brush reel is rotating properly.
2. To began sweeping, lower sweeper head. Check to see that hydraulic lever is in low flow on Cushman Truckster.
3. Make sure towing vehicle is moving when you turn on brush.
4. Travel slow enough to ensure complete material pickup. If sweeper is not sweeping clean you will need to slow down your travel speed.
5. If possible try not to make sharp turns with the sweeper head on the ground.
6. When working on greens, began at the edge and work inward.
7. Do not make sharp turns on inclines, as tongue could contact rear tires of tow vehicle causing the tow vehicle to overturn.
8. Do not stop the tow vehicle and let the brush run or damage to turf may result.
9. Sweeper will not pick up material properly if material is to wet.

OPERATION

TOWING POSITIONS

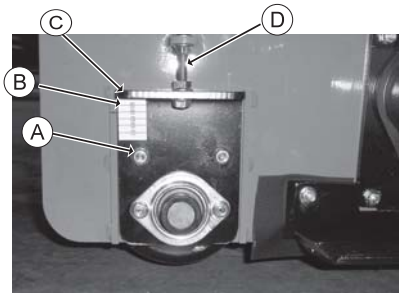
1. The Sweep Star P48 has 2 Towing positions, operating and transport.
2. In transport position the sweeper follows directly behind the tow vehicle. This is used to tow the sweeper to and from the area being swept. The sweeper can be operated in transport position in small confined areas.
3. In operating position the sweeper follows to the left of the tow vehicle. You are not driving on the material you are sweeping. This position works well in open areas.
4. To offset the hitch in operating position. Stop the tow vehicle, raise the sweeper head off the ground. Pull the rope handle then drive slowly forward and turn to the right. Then release rope tension, drive forward until pin in tongue locks into hole. Lower sweeper head and began sweeping.
5. To change from operating position to transport position you will need to stop the tow vehicle, raise the sweeper head, pull the rope handle back up. The tow vehicle while turning to the left. Release rope tension until pin in tongue locks into transport hole.





ADJUSTING BRUSH HEIGHT

1. Park sweeper on hard surface. Lower head until roller contacts surface. Set brake on tow vehicle and shut off engine.
2. Rotate brush so it stops 90° off the surface. For most applications the brush should be set 1/4" above the hard surface. Some may require higher or lower settings.
3. To adjust height, loosen eight bolts (A) on roller adjustment plate (C), four on each side. Then loosen the top two nuts on the adjustment bolt (D) on each side. To raise the brush tighten the bottom nut and to lower the brush tighten the top nut.



4. The adjustment decal (B) are for reference only. So both sides can be set the same.
5. After all adjustments are made. Tighten all nuts and adjustment bolts. Test before putting into operation.

DUMPING HOPPER

1. After operating the sweeper for awhile and it is no longer picking up material effectively, it is time to empty hopper.
2. Make sure your dumping site is level and has adequate overhead clearance to fully raise the hopper.
3. TO empty the hopper. Stop the tow vehicle and lock the park brake. Lower sweeper head so lift cylinder extends all the way. Then hopper will began to raise. Continue to raise the hopper all the way or until all material has dumped out of hopper.
4. Lower hopper and hold valve lever down until sweeper head lifts. Then transport back to work site and continue sweeping until hopper fills again.

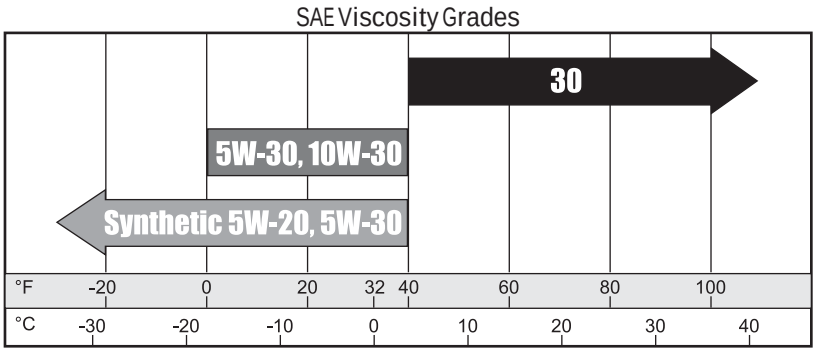
OPERATION

REMOVING SWEEPER FROM TOW VEHICLE

1. Make sure hopper is empty of all material, lowered to the ground position and parked on a level surface.
2. Set park brake on tow vehicle. Shut off engine.
3. Move valve levers back and forth several times to relieve hydraulic system pressure before disconnecting hoses form couplers.
4. Secure hoses off the ground of storage.
5. Remove rope and handle from tow vehicle and coil rope around front lift cylinder.
6. Lower jack and raise tongue. Remove hitch and drawbar pin.
7. If sweeper is not going to be used for an extended period of time. See Storage section.

ENGINE OIL

Change and add oil according to chart below. Do not overfill. Use a high quality detergent oil classified "For Service SJ or higher" SAE 30 oil. Use no special additives with recommended oils. Do not mix oil with gasoline.



Starting Temperature Range Anticipated Before Next Oil Change

Air cooled engine run hotter than automotive engines. Use of multi-viscosity oils (10W-30, etc.) above 40° F (4° C) will result in high oil consumption and possible engine damage. Check oil level more frequently if using these types of oils.

SAE 30 oil, if used below 40° F (4° C), will result in hard starting and possible engine bore damage due to inadequate lubrication.

FUEL RECOMMENDATION

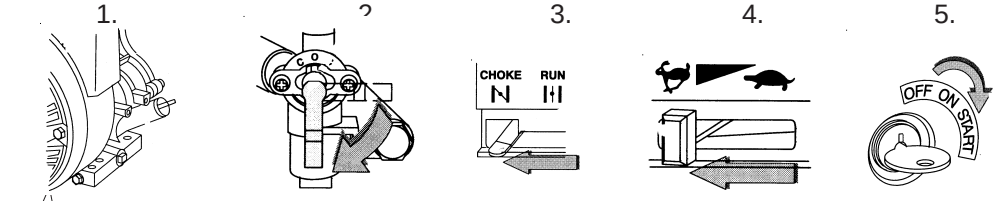
Use clean, lead-free gasoline with a minimum of 85 octane.

STARTING ENGINE

Check oil level.

2. Open fuel shut off valve.
3. Move choke to the Choke position.
4. Move throttle control to fast position.
5. Turn key to the start position. Repeat if necessary with throttle control in Fast position.

1. 2. 3. 4. 5.



STOPPING THE ENGINE

.1 Do not move choke control to CHOKE position to stop engine. Backfire or engine damage may occur.

2. Move Throttle control to idle or SLOW position. Then turn key to off position.
3. Close fuel shut off valve.
4. Always remove key from the switch when equipment is not in use or left unattended.

CAUTION

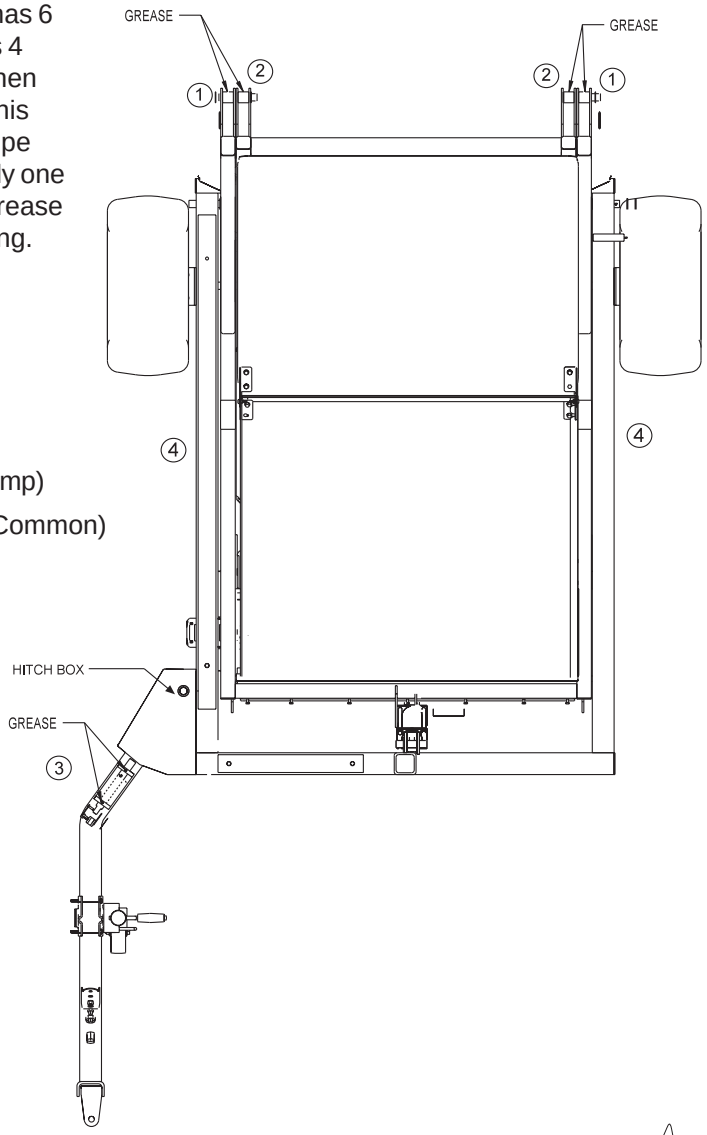
Before servicing or making adjustments to machine, stop engine on tow vehicle and remove key from ignition.

NOTE:

Use all procedures and parts prescribed by the manufacturer's. Read the engine manual before operation.

LUBRICATION

Use No. 2 General Purpose Lithium Base Grease and lubricate **DAILY.** The Sweep Star P48 High Dump has 6 grease fittings. The Sweep Star P48 Low Dump has 4 grease fittings. All bearings are sealed bearings. When inserting grease, be careful not to ruin the seal, if this happens, replace the bearing at once. Be sure to wipe grease fitting clean before injecting grease. Give only one or two pumps of grease at each lubrication. Apply grease to bottom inner surface of hitch box to prevent binding.



Ref#Location

1 Two on inside frame pivot tube. (High Dump)

2 Two on hopper sub frame pivot tube. (High Dump)

3 Two on the hitch lock pin by the coil spring. (Common)

4 Two on each side on rod end. (Low Dump)

MAINTENANCE (CONTINUED)

TIRE PRESSURE

Caution must be used when inflating a low tire to recommended pressure. Over inflating can cause tires to explode. Tires on the machine should be 18 psi (1.3 bar). Improper inflation will reduce tire life considerably.

WHEEL MOUNTING PROCEDURE

1. Turn machine off and remove key.
2. Be sure unit is on a level surface. Unhitch from tow vehicle if possible.
3. Block the opposite wheel then the one you are working on.
4. Loosen nuts slightly on wheel to be removed.
5. Jack up machine being careful not to damage underside of machine.
6. Remove nuts, remove wheel.
7. Place new wheel on hub lining up bolt holes.
8. Torque nuts to 64-74 ft/lb (87-100 Nm) using a cross pattern. Torque again after first 10 hours and every 200 hours thereafter.
9. Lower machine to ground and remove blocks and jack.

SERVICE INTERVALS

Before each Use:

Lubricate all pivot points. Use No. 2 General Purpose Lithium Base Grease.

Check tow vehicle fluid levels.

Check tongue positioning rope for wear.

After Each Use:

Make sure hopper is emptied.

Inspect hydraulic system for leaks or damage.

Check for loose or missing hardware.

After 10 hours:

Check brushes for wear.

Check and adjust brush height.

Lubricate all pivot points and grease fittings

After 50 hours:

Check wheel lug nuts torque to 70 nm (50 lb ft).

Inspect tires - Check air pressure 18 psi

After 75 hours:

Check rubber skirts for wear or damage.

After 125 hours:

Lubricate wheel bearings.

HOPPER LIFT SAFETY

The Hopper Lift Safety Bars are used to support the ram on the hopper bottom in the extended position so you may service or repair the machine under the hopper. When not in use the Hopper Lift Safety can be stored on the rear hopper bed frame.

	Daily	As Required	5 Hours	25 Hours	50 Hours	75 Hours	100 Hours	Every Season
¤£ Engine Oil	C	R	R	R	R	R	R	R
¤ Engine Oil Filter			R	R			R	R
Engine for Leaks and Loose Parts	C		C	C			C	C
‡ Air Cleaner (Paper Element)		R	C	R			C	R
Spark Plugs							R	R
Idle Speed		C						C
Hoses	C				C		C	C
* Tire Pressure	C		C		C		C	C
Visual Inspection of Tires	C		C		C		C	C
Fuel Level	C	C						R
Fuel Filter		R			C			R
Hydraulic Oil	C		C	C		C	C	R
† Hydraulic Oil Filter					R			R
Hydraulic System for Leaks and Loose Parts	C		C	C		C	C	C
Battery Electrolyte Level			C	C		C	C	C
Clean Battery Terminals					C			C
§ Torque Lug Nuts				C			C	C
Lubricate	C		C		C		C	C

C=Check or Clean at specified intervals
R=Replace at specified intervals
**** Tire pressure: 5 psi (0.35 bar)***
† Replace hydraulic filters after the first 20, 100, and every 250 there after.
§ Torque tire nuts after the first 10 hours and every 200 hours there after (64 to 74 ft/lb (87-100 Nm))
¤ Change Oil and Filter after first 8 hours.
£ Change oil every 25 hours when operating under heavy load or in high ambient temperatures.
‡ Clean more often under dusty conditions or when airborne debris is present , replace air cleaner parts, if very dirty.

The suggested maintenance checklist is not offered as a replacement for the manufacturer's engine manual but as a supplement. You must adhere to the guidelines established by the manufacturer for warranty coverage. In adverse conditions such as dirt, mud or extreme temperatures, maintenance should be more frequent.

END USERS SERVICE CHART

	Daily	As Required	5 Hours	25 Hours	50 Hours	75 Hours	100 Hours	Every Season
¤£ Engine Oil								
¤ Engine Oil Filter								
Engine for Leaks and Loose Parts								
‡ Air Cleaner (Paper Element)								
Spark Plugs								
Idle Speed								
Hoses								
* Tire Pressure								
Visual Inspection of Tires								
Fuel Level								
Fuel Filter								
Hydraulic Oil								
† Hydraulic Oil Filter								
Hydraulic System for Leaks and Loose Parts								
Battery Electrolyte Level								
Clean Battery Terminals								
§ Torque Lug Nuts								
Lubricate								

C=Check or Clean at specified intervals
R=Replace at specified intervals
**** Tire pressure: 5 psi (0.35 bar)***
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TROUBLE SHOOTING

If hopper and sweeper head will not raise.

- Check for proper connection of hydraulic hoses to couplers.
- Check hydraulic couplers for full engagement.
- Check hydraulic oil level in tow vehicle.
- Check for damage or leaking of hydraulic cylinders.
- Hopper may be overloaded.

If hopper will not lower.

- Raise hopper and remove hopper lift safety bars.
- Check for damaged pivot pins.

If hopper or sweeper head will not hold position.

- Tighten leaking hydraulic fittings.
- Replace hydraulic lines that leak.

If brush will not rotate.

- Check for proper connection of hydraulic hoses to couplers.
- Check hydraulic couplers for full engagement
- Check hydraulic oil level in tow vehicle
- Check for damaged hydraulic motor.
- Check for damaged brush shaft bearings.

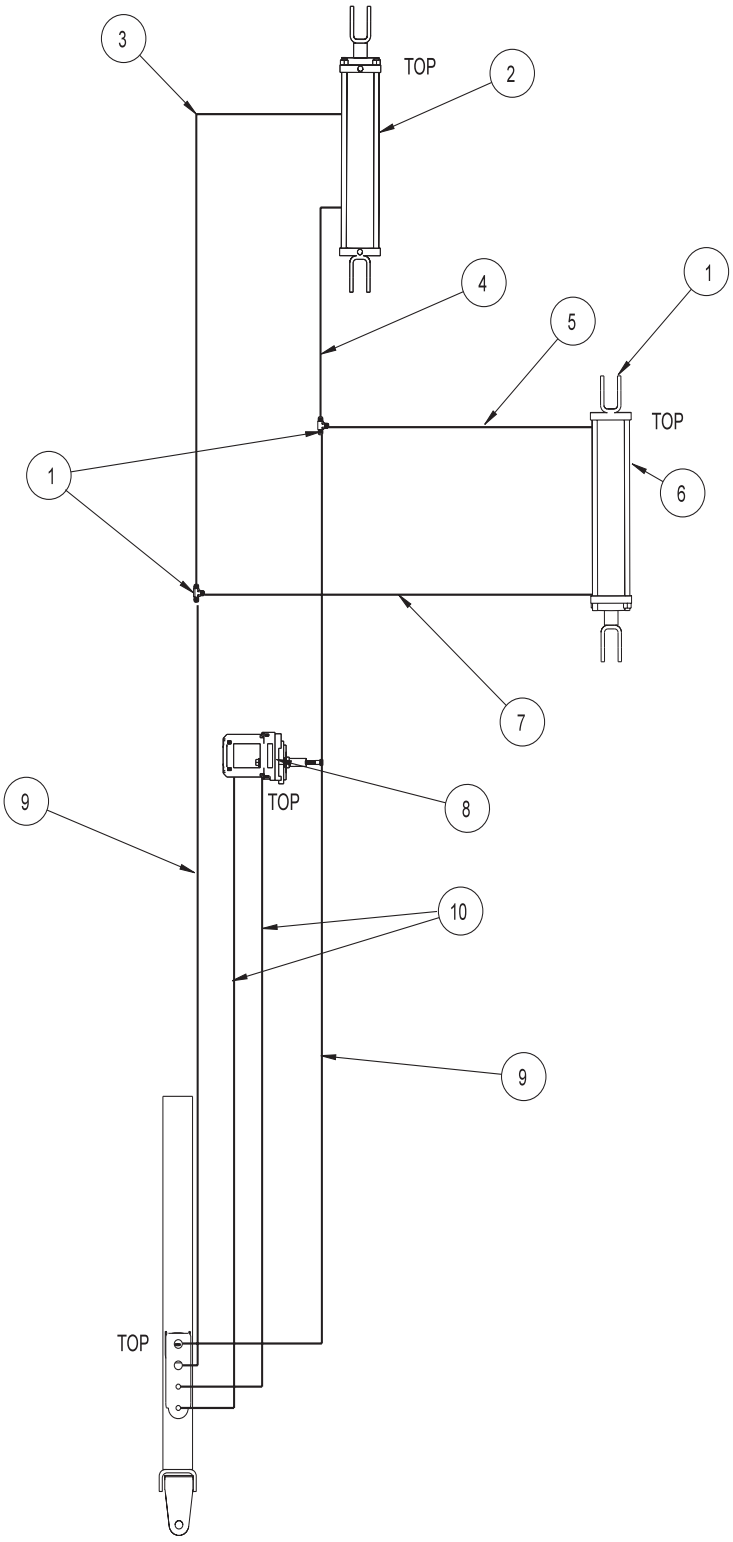
If not all material is picked up.

- Material is to wet .Let material dry.
- Check tires for equal pressure.
- Check and adjust brush height.
- Use a slower travel speed.
- Empty hopper it may be full.

STORAGE

1. Before storing clean machine thoroughly.
2. Check bolts and nuts, tighten as necessary.
3. Make all repairs that are needed and remove any debris.
4. Store in a clean and dry area.
5. Make sure the brush sections are at 45° to the ground or bristle deformation could occur.

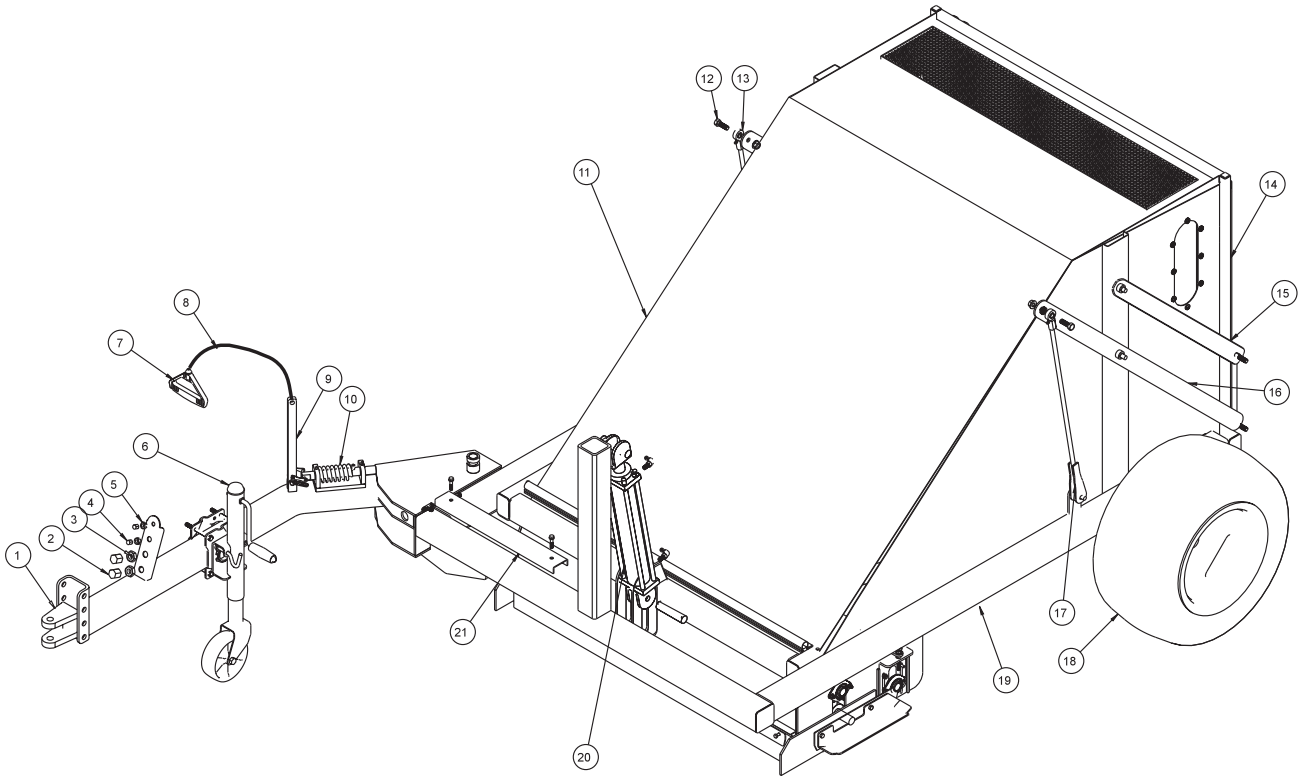
P48HLD LOW DUMP HYDRAULIC DRAWING



P48HLD LOW DUMP HYDRAULIC PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	18-173	Tee 3/8 Union	2
2	78-225	Hydraulic Cylinder	1
	18-169	Adapter	2
3	7-838	Hydraulic Hose 68"	1
4	7-606	Hydraulic Hose 82"	1
5	7-841	Hydraulic Hose 43"	1
6	7-834	Hydraulic Cylinder	1
	23-167	Male Elbow	2
7	7-842	Hydraulic Hose 34"	1
8	7-833	Hydraulic Motor	1
9	7-843	Hydraulic Hose 43"	2
10	7-844	Hydraulic Hose 58"	2

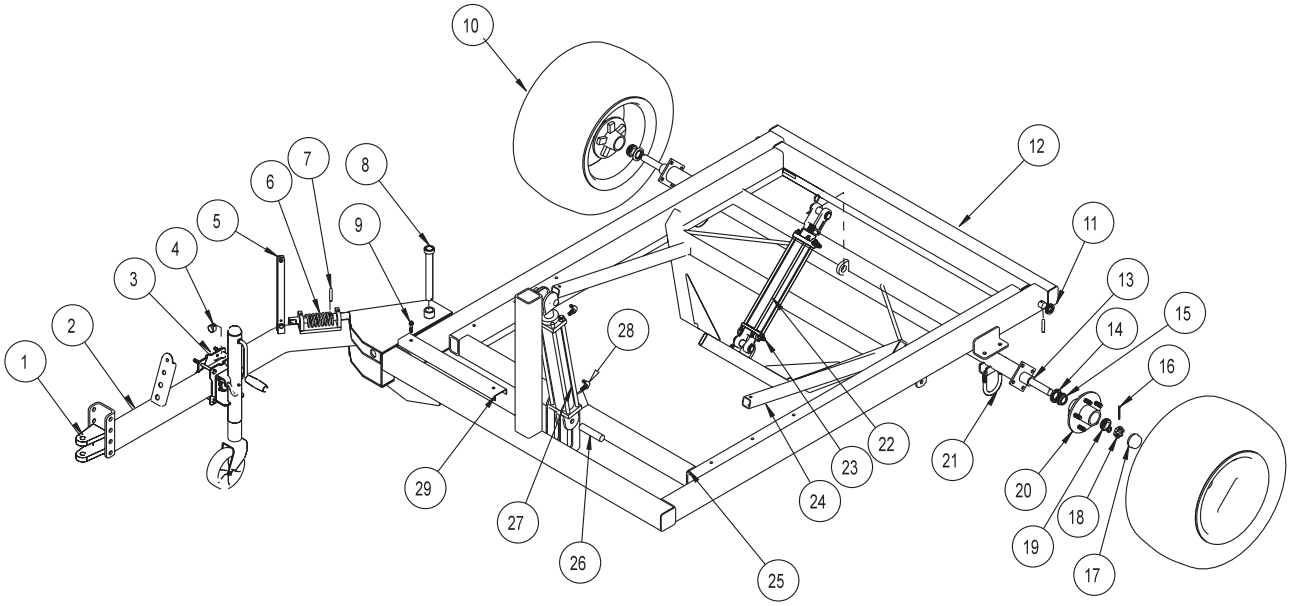
SWEEP STAR P48HLD LOW DUMP HYDRAULIC DRIVE DRAWING



SWEEP STAR P48HLD LOW DUMP HYDRAULIC DRIVE PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	78-244	Adjustable Clevis Hitch	1
2	18-344	1/2" Cap	2
3	HNJ-34-16	Jam Nut 3/4 -16	2
4	7-836	#4 Cap	2
5	HN-716-20	Hex Nut 7/16 -20	2
6	5-036	Trailer Jack	1
7	7-835	Mitten Grip	1
8	7-816	Lock Handle	1
9	9011-10	Rope 10'	1
10	16-918	Coil Spring	1
11	7-610	Hopper Assembly	1
	7-615	Clear Lexan Window	2
12	HB-12-13-075	Bolt 1/2 - 13 x 3/4	2
	HMB-12-14	Machine Bushing 1/2 x 14GA	8
	HNTL-12-13	Lock Nut 1/2 -13	2
13	80-006	Rod End with Grease Fitting	2
14	7-611	Tailgate assembly	1
15	7-612	Short Lift Arm	2
16	7-613	Long Lift Arm	2
- 17	7-614	Tailgate Lift Arm	2
18	7-832	Tire & Wheel	2
	16-225-01	Tire 24 x 13 x 12	2
	72-042-02	Wheel	2
19	7-805	Main Frame	1
20	7-834	Hydraulic Cylinder	1
	7-819	Lift Cylinder Pin	1
	23-167	Male Elbow	2
21	7-817	Front Hose Guard	1

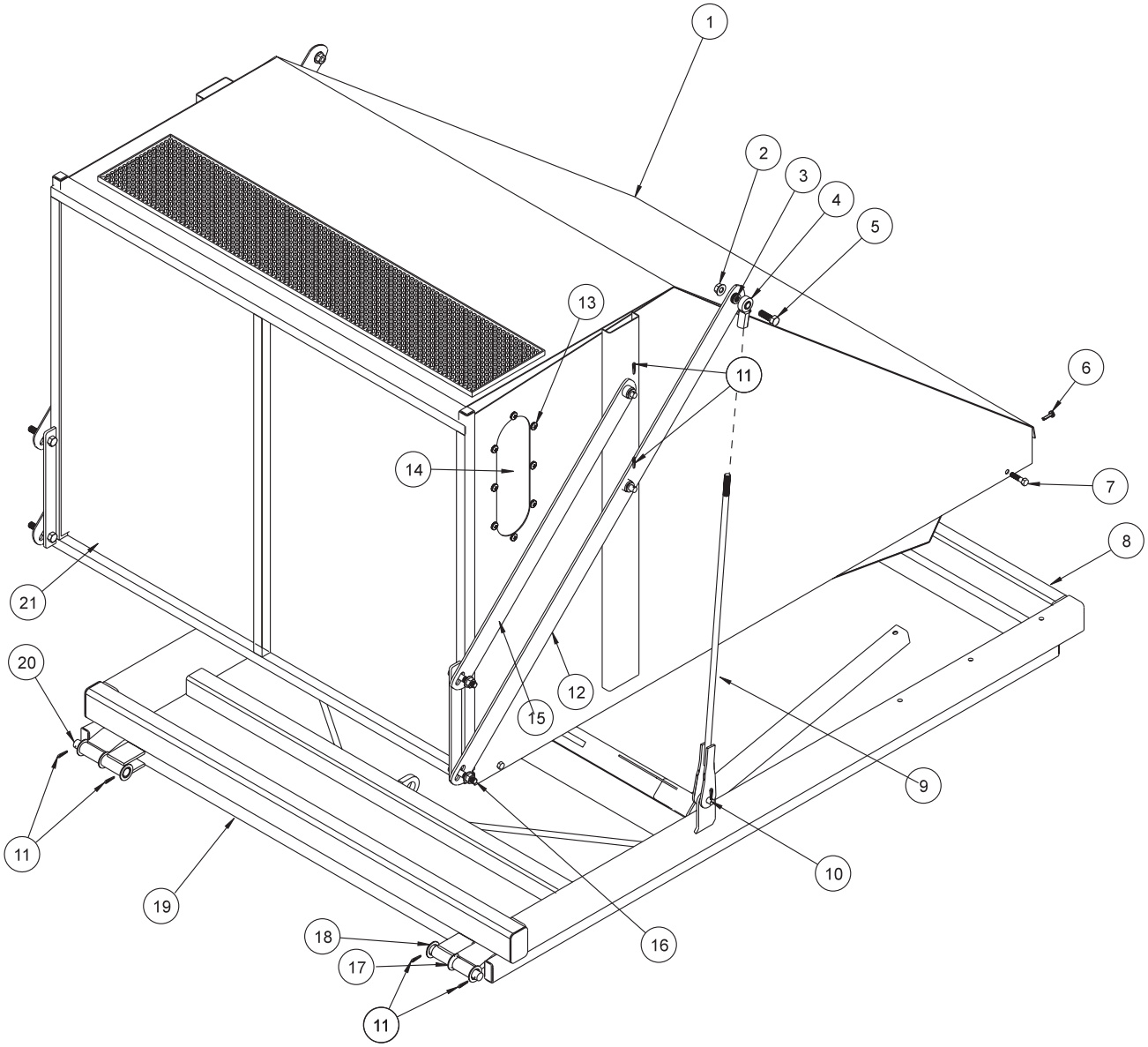
MAIN FRAME P48HLD LOW DUMP DRAWING



MAIN FRAME P48HLD LOW DUMP PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	78-244	3/4" Clevis	1
2	7-813	Tongue Assembly	1
	7-860	Wearstrip	1
	HSMFCS-14-20-100	Machine Screw 1/4 - 20 x 1	2
3	5-036	Trailer Jack	1
4	HLC-A-200	Loom Clamp	1
5	7-816	Lock Handle	1
	13-417	Master Link	1
	HB-38-16-175	Bolt 3/8 - 16 x 1 3/4	1
	HNTL-38-16	Lock Nut 3/8 - 16	1
6	7-815	Hitch Lock Pin	1
	16-918	Coil Spring	1
7	HRP-38-250	Roll Pin 3/8 x 2 1/2	1
8	7-814	Pivot Arm	1
	HP-18-075	Cotter Pin 1/8 x 3/4	1
9	HB-516-18-150	Bolt 5/16 -18 x 1 1/2	2
	HWL-516	Lock Washer 5/16	2
10	7-832	Tire and Wheel	2
	16-225-01	Tire Only 24 x 13 x 12	2
	72-042-02	Wheel Only	2
11	7-828	Pivot Shaft	1
	HRP-38-250	Roll Pin 3/8 x 2 1/2	2
	HMB-100-10	Machine Bushing 1 x 10GA	4
12	7-805	Main Frame	1
13*	72-048	Axle (includes all * item)	1
14*	33-073-01	Grease Seal	2
15*	78-118	Inner Bearing	2
16	HP-18-100	Cotter Pin 1/8 x 1	2
17*	33-072-03	Dust Cap	2
18	HNAR-100-14	Slotted Jam Nut 1-14	2
19*	78-119	Outer Bearing	2
20*	33-073	Hub Assembly	2
21	20-181	U-Bolt	2
	HN-12-20	Nut 1/2 - 20	4
	HWL-12	Lock Washer 1/2	4
22	78-255	Hydraulic Cylinder	1
	7-609	Lift Cylinder Pin	1
23	18-169	Adapter	2
24	7-608	Hopper Sub Frame	1
25	7-607	Inside Frame	1
26	7-609	Lift Cylinder Pin	1
27	7-834	Hydraulic Cylinder	1
28	23-167	Male Elbow	2
29	7-817	Front Hose Guard	1

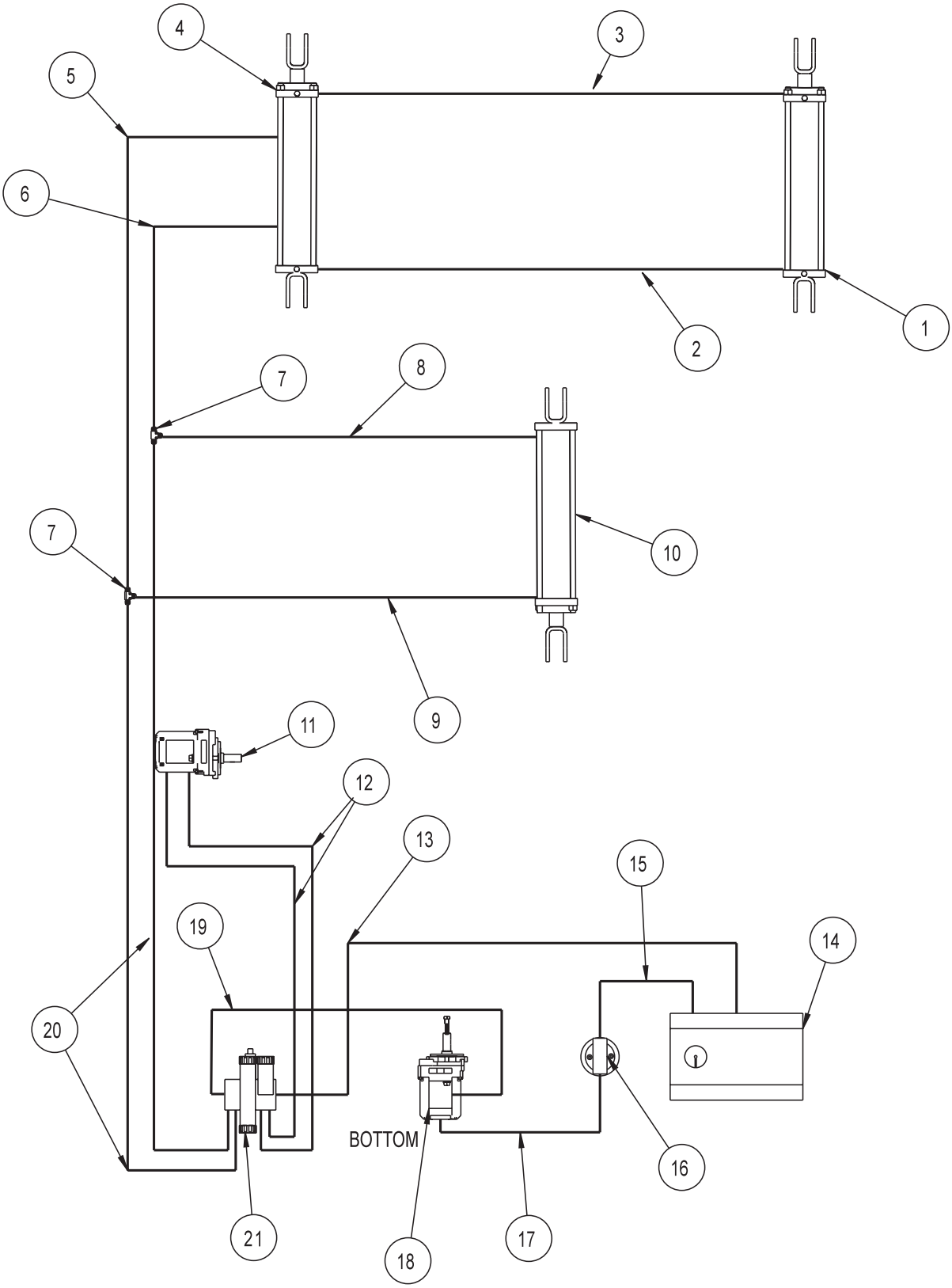
LOW DUMP HOPPER TIALGATE DRAWING



LOW DUMP HOPPER TAILGATE PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	7-610	Hopper Assembly	1
2	HNTL-12-13	Lock Nut 1/2 -13	2
3	HMB-12-14	Machine Bushing 1/2 x 14GA	8
4	80-006	Rod End with Grease Fitting	2
5	HB-12-13-175	Bolt 1/2 -13 x 1 3/4	2
6	HSD-14-20-100	Drill Screw Screw 1/4 -20 x 1	3
7	HB-38-16-150	Bolt 3/8- 16 x 1 1/2	3
	HNTL-38-16	Lock Nut 3/8 -16	3
8	7-607	Inside Frame	1
9	7-614	Tailgate Lift Rod	2
10	HCP-12-100	Clevis Pin 1/2 x 1	2
	HP-18-075	Cotter Pin 1/8 x 3/4	2
11	HP-18-100	Cotter Pin 1/8 x 1	8
12	7-613	Long Lift Arm	2
	HMB-12-14	Machine Bushing 1/2 x 14GA	2
13	HSTP-516-18-075	Phillips Truss Head Screw 5/16 - 18 x 3/4	16
	HNFL-516-18	Flange Whiz Lock Nut 5/16 - 18	16
14	7-615	Clear Lexan Window	2
15	7-612	Short Lift Arm	2
	HMB-12-14	Machine Bushing 1/2 x 14GA	2
16	HB-12-13-150	Bolt 1/2 - 13 x 1 1/2	4
	HNFL-12-13	Flange Whiz Lock Nut 1/2 - 13	8
	HW-12	Washer 1/2	4
17	HMB-34-10	Machine Bushing 3/4 x 10GA	2
18	HMB-34-14	Machine Bushing 13 4 x 14GA	4
19	7-608	Hopper Sub Frame	1
20	7-609	Dump Pins	2
21	7-611	Tailgate Assembly	1

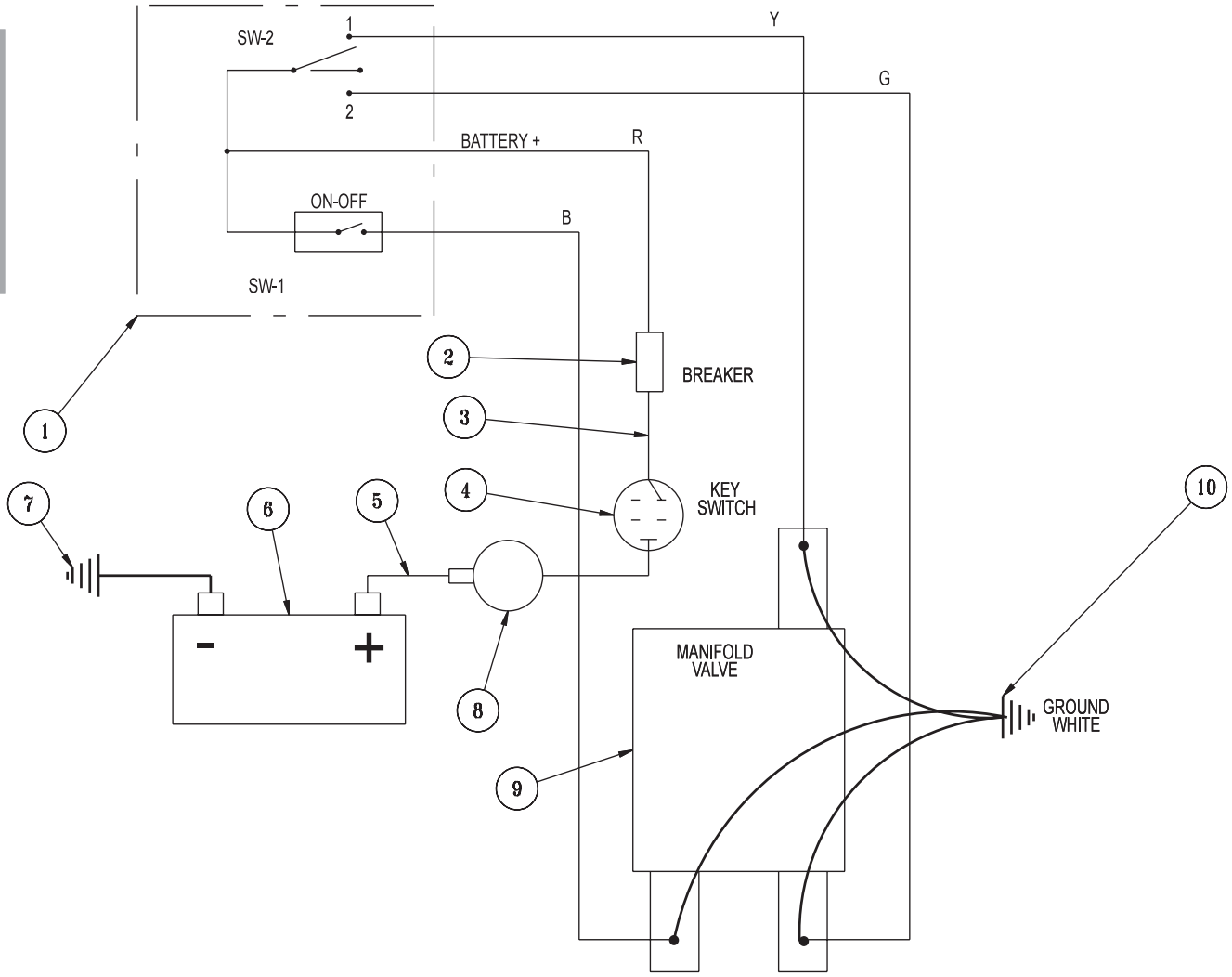
P48HE HIGH DUMP ENGINE DRIVE HYDRAULIC DRAWING



P48HE HIGH DUMP ENGINE DRIVE HYDRAULIC PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	76-242	Hydraulic Cylinder	1
	23-167	Elbow	2
2	7-838	Hydraulic Hose 68"	1
3	7-837	Hydraulic Hose 102"	1
4	76-242	Hydraulic Cylinder	1
	23-167	Elbow	2
	23-188	Male Connector 3/8 (bottom)	1
	18-190	Tee (top)	1
5	7-839	Hydraulic Hose 106"	1
6	7-840	Hydraulic Hose 91"	1
7	18-173	Tee 3/8 Union	2
8	7-841	Hydraulic Hose 43"	1
9	7-842	Hydraulic Hose 34"	1
10	7-834	Hydraulic Cylinder	1
	23-167	Male Elbow	2
11	7-833	Hydraulic Motor	1
12	7-708	Hydraulic Hose 40"	2
13	7-706	Hydraulic Hose 48"	1
14	13-584	Oil Tank	1
	13-586	Filler Breather	1
15	8917-12	5/8 Suction Hose 12"	1
16	23-006	Filter Assembly	1
	23-031	Replacement Filter Only	1
17	8917-16	5/8 Suction Hose 16"	1
18	7-712	Hydraulic Mount	1
19	7-707	Hydraulic Hose 40"	1
20	7-709	Hydraulic Hose 24"	2
21	7-711	DO3 Manifold Valve	1

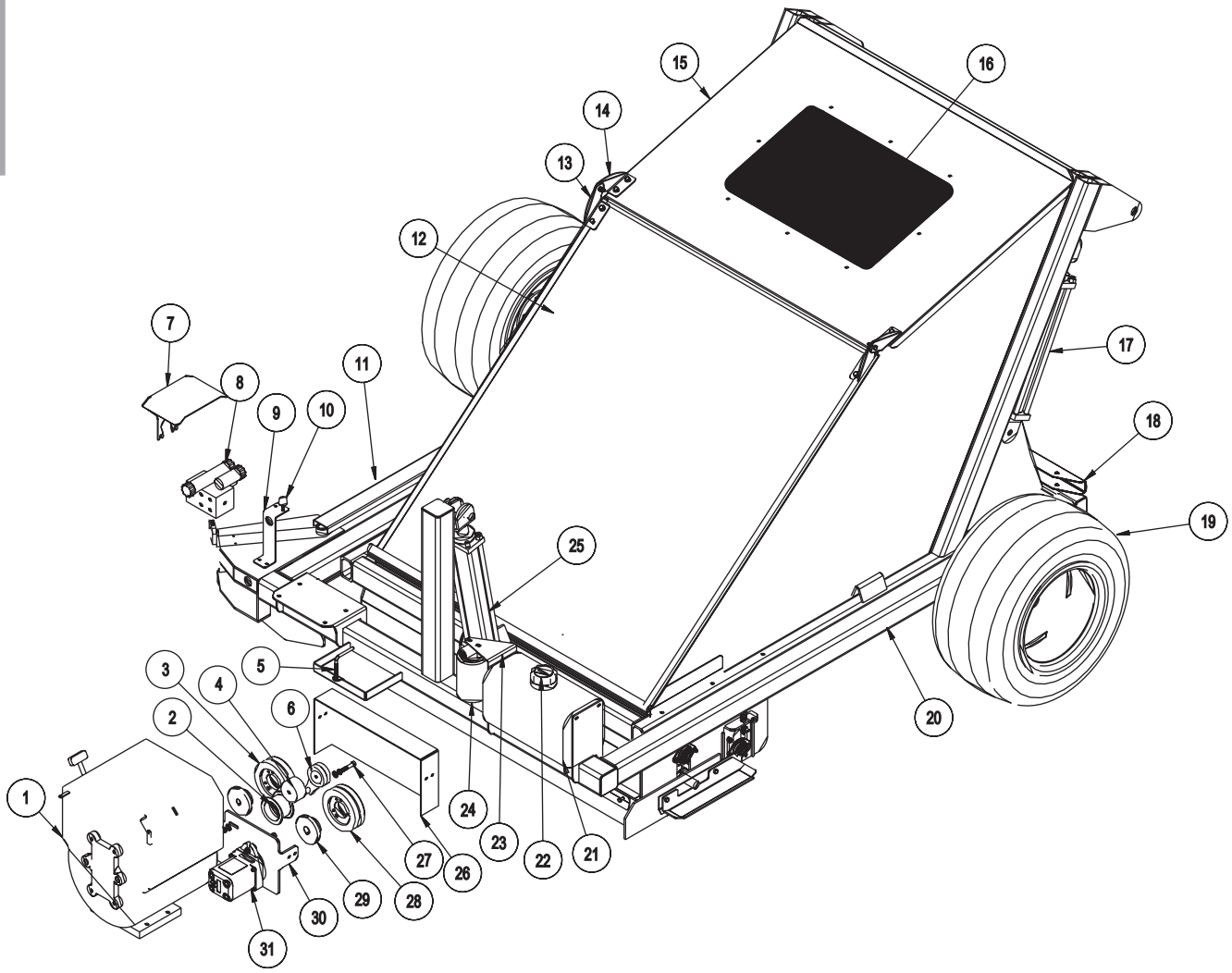
P48HE HIGH DUMP ENGINE DRIVE ELECTRICAL DRAWING



P48HE HIGH DUMP ENGINE DRIVE ELECTRICAL PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	7-713	Wire Harness	1
2	8975	Circuit Breaker	1
	8977	Circuit Breaker Boot	1
3	7-716	Red Wire Assembly	1
4	13-488	Key Switch (part of engine)	1
5	22-065	Positive Battery Cable	1
6		U-1 300 Amp Battery (not supplied)	1
7	22-065	Negative Ground Battery Cable	1
8		Starter (part of engine)	1
9	7-711	Manifold Valve	1
10	7-715	Ground Wire Assembly	1

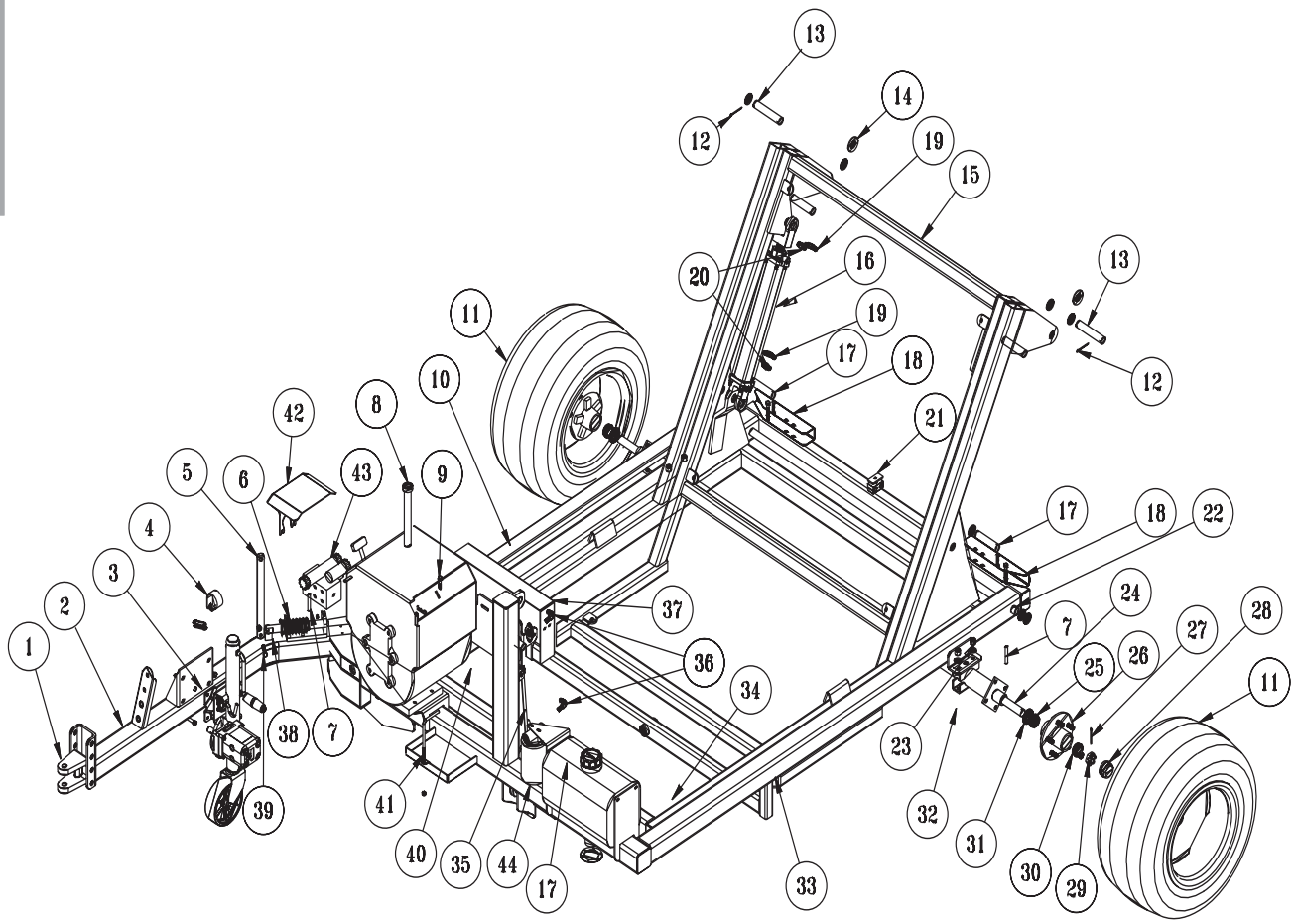
SWEEP STAR P48HE HIGH DUMP ENGINE DRIVE DRAWING



SWEEP STAR P48HE HIGH DUMP ENGINE DRIVE PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	7-710	Engine Briggs 7.5 HP	1
2	16-013	Idler Pulley	1
	10-134	Spacer	1
3	77-124	Pulley w/ Hub	1
	HKSQ-14-100	Square Key 1/4 x 1	1
4	42-361	Tensioner Spacer	1
5	42-327	Belt Tensioner	1
6	7-717	Battery Hold-down	1
7	7-722	Valve Cover	1
8	7-711	Manifold Valve	1
9	7-720	Valve Cover Support	1
	7-724	3/4" Clamp	1
10	15-013	Rubber Bumper	1
11	7-818	Side Hose Guard	1
12	7-808	Hopper Assembly	1
13	7-826	Right Hinge Bracket	2
14	7-827	Left Hinge Bracket	2
15	7-829	Hopper Door	1
	7-830	Screen Door	1
16	7-831	Screen Cover	1
17	72-242	Hydraulic Cylinder	2
- 18	75-653	Hopper Lift Safety Bar	2
19	7-832	Tire & Wheel	2
	16-225-01	Tire 24 x 13 x 12	2
	72-042-02	Wheel	2
20	7-719	Main Frame	1
21	13-584	Oil Tank	1
22	13-586	Filler Breather	1
23	17-184	Filter Bracket	1
24	23-006	Oil Filter	1
25	7-834	Hydraulic Cylinder	1
26	7-721	Belt Guard	1
	HB-516-18-150	Bolt 5/16 - 18 x 1 1/2	4
	HW-516	Washer 5/16	4
	HNTL-516-18	Lock Nut 5/16 -18	4
27	HB-38-16-275	Bolt 3/8 - 16 x 2 3/4	1
	HW-38	Washer 3/8	1
	HNFL-38-16	Flange Lock Nut 3/8 - 16	1
28	7-714	Pulley	1
29	42-246	Hub 3/4"	1
30	7-718	Pump Mount	1
	HB-516-18-100	Bolt 5/16 -18 x 1	6
	HWL-516	Lockwasher 5/16	6
	HNFL-516-18	Flange Whiz Lock Nut	2
31	7-712	Hydraulic Pump	1
NS	21-005	V-Belt	2

MAIN FRAME P48HE HIGH DUMP ENGINE DRIVE DRAWING

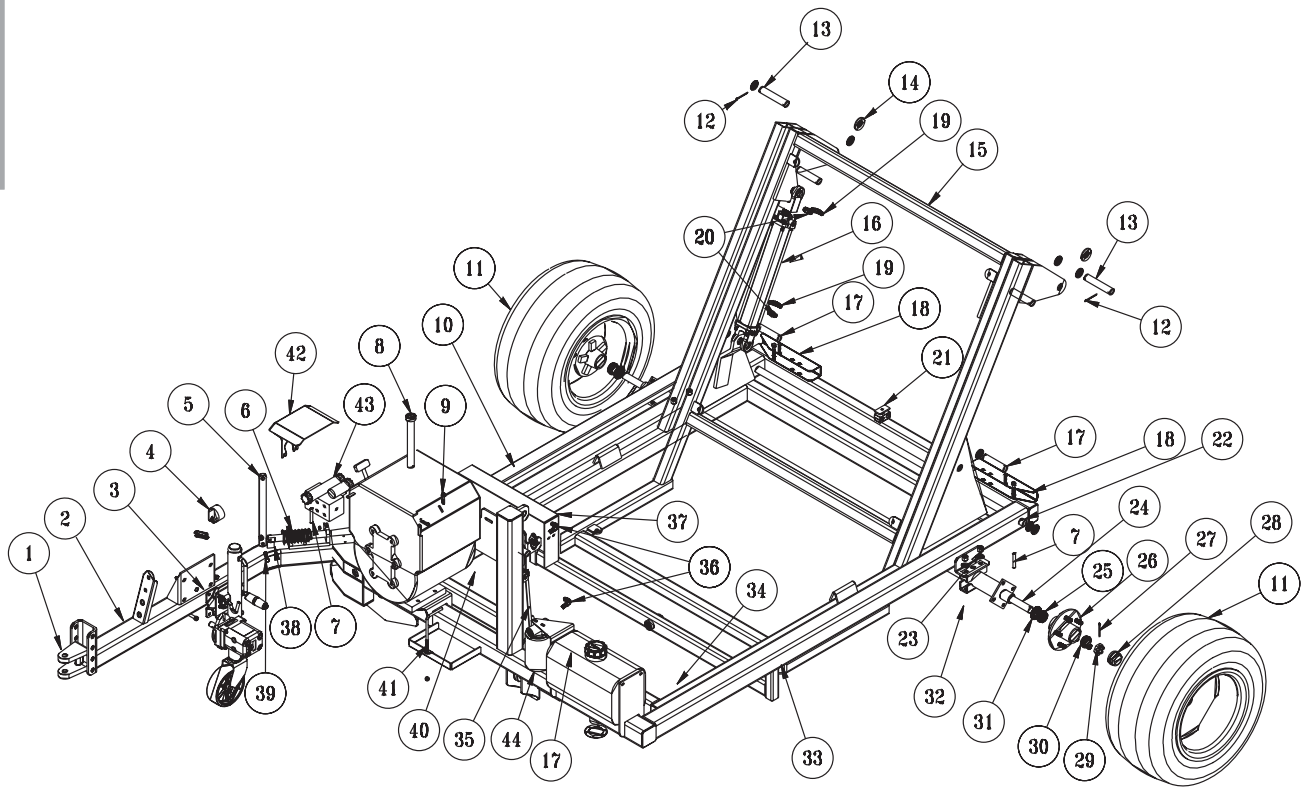


MAIN FRAME P48HE HIGH DUMP ENGINE DRIVE PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	13-584	Oil Tank	1
	13-586	Filler Breather	1
2	23-006	Oil Filter	1
	23-031	Replacement Filter Only	
3	7-834	Hydraulic Cylinder	1
	7-819	Lift Cylinder Pin	3
	11-092	Spacer	4
	HMB-100-14	Machine Bushing 1 x 14GA	4
4	7-712	Hydraulic Pump	1
	7-718	Pump Mount	1
5	7-717	Battery Holddown	1
	HNTL-516-18	Lock Nut 5/16 -18	1
6	7-722	Valve Cover	1
	7-720	Valve Cover Support	1
7	7-711	Manifold Valve	1
8	7-814	Pivot Arm	1
	HP-316-200	Cotter Pin 3/16 x 2	1
9	7-710	Engine 7.5 HP	1
10	7-818	Side Hose Guard	1
	HB-516-18-150	Bolt 5/16 -18 x 1 1/2	2
	HWL-516	Lock Washer 5/16	2
11	7-832	Tire and Wheel	2
	16-225-01	Tire Only 24 x 13 x 12	2
	72-042-02	Wheel Only	2
12	HHP-18-100	Bridge Pin 1/8 x 1	4
13	HCP-100-500	Clevis Pin 1 x 5	2
14	HW-100	Washer 1"	2
15	7-807	Hopper Sub Frame	1
16	76-242	Hydraulic Cylinder	2
17	HCP-100-400	Clevis Pin 1 x 4	2
	11-092	Spacer	4
	HMB-100-14	Machine Bushing 1 x 14GA	4
18	75-653	Hopper Lift Safety Bar	2
	75-651	Decal, Hopper Lift Safety Bar	2
	HB-38-16-250	Bolt 3/8 - 16 x 2 1/2	2
	HNW-38-16	Wing Nut 3/8 - 16	2
19	23-167	Elbow	4
20	23-188	Male Connector 3/8	1
21	13-652	Hose Clamp	1
22	7-828	Frame Pivot Shaft	1
	HMB-100-10	Machine Bushing 1 x 10GA	4
	HRP-38-250	Roll Pin 3/8 x 2 1/2	2
23	HN-12-20	Nut 1/2 - 20	4
	HWL-12	Lock Washer 1/2	4
24*	72-048	Axle (includes all * item)	1
25*	78-118	Inner Bearing	2
26*	33-073	Hub Assembly	2
27	HP-18-200	Cotter Pin 1/8 x 2	2
28*	33-072-03	Dust Cap	2
29	HNAR-100-14	Slotted Jam Nut 1-14	2

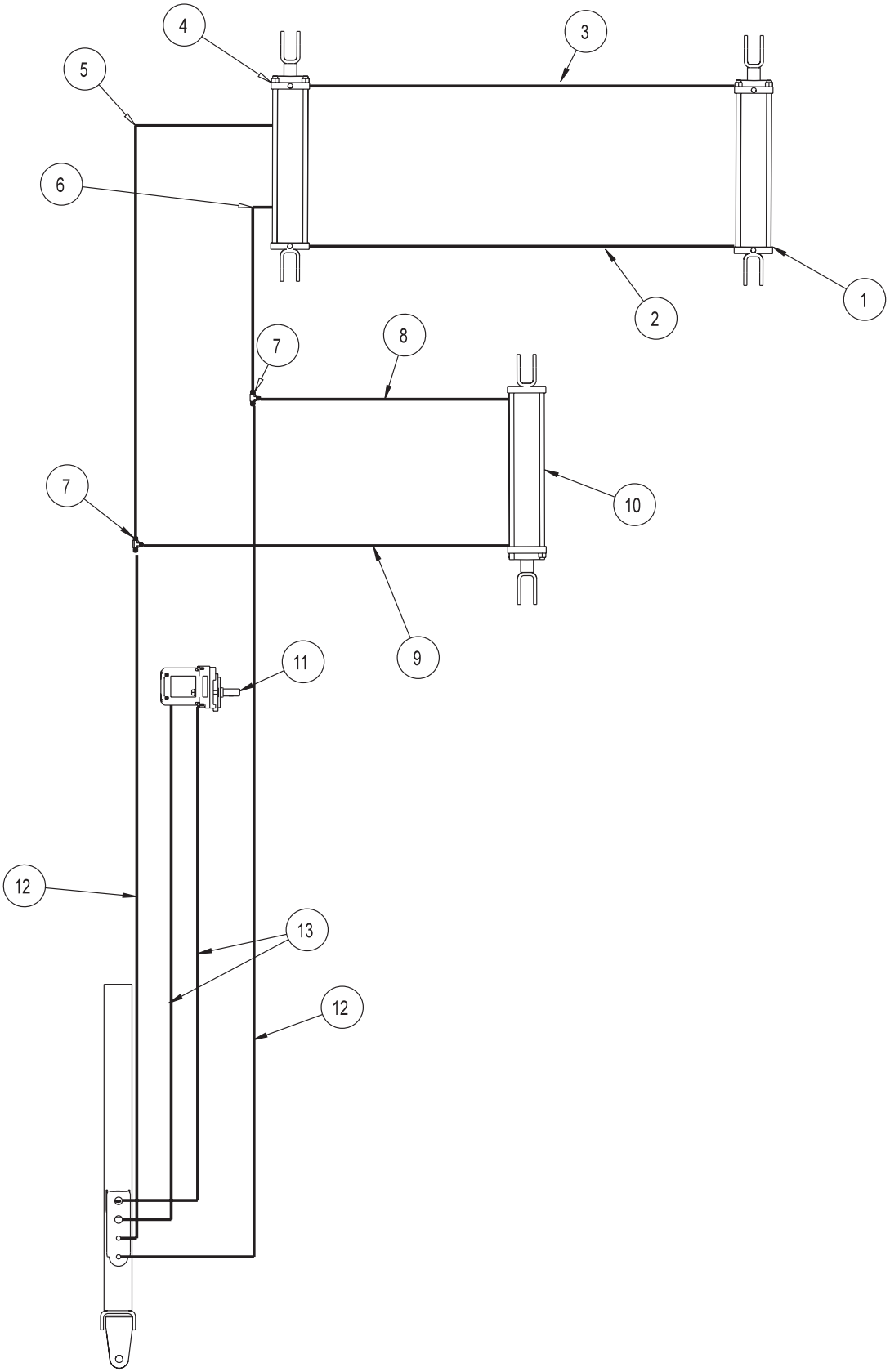
(Continued on next page)

MAIN FRAME P48HE HIGH DUMP ENGINE DRIVE DRAWING



REF#	PART#	DESCRIPTION	QUANTITY
30*	78-119	Outer Bearing	2
31*	33-073-01	Grease Seal	2
32	20-181	U-Bolt	2
33	7-719	Main Frame	1
34	7-869	Inside Frame	1
35	23-167	Male Elbow	2
36	7-721	Belt Guard	11

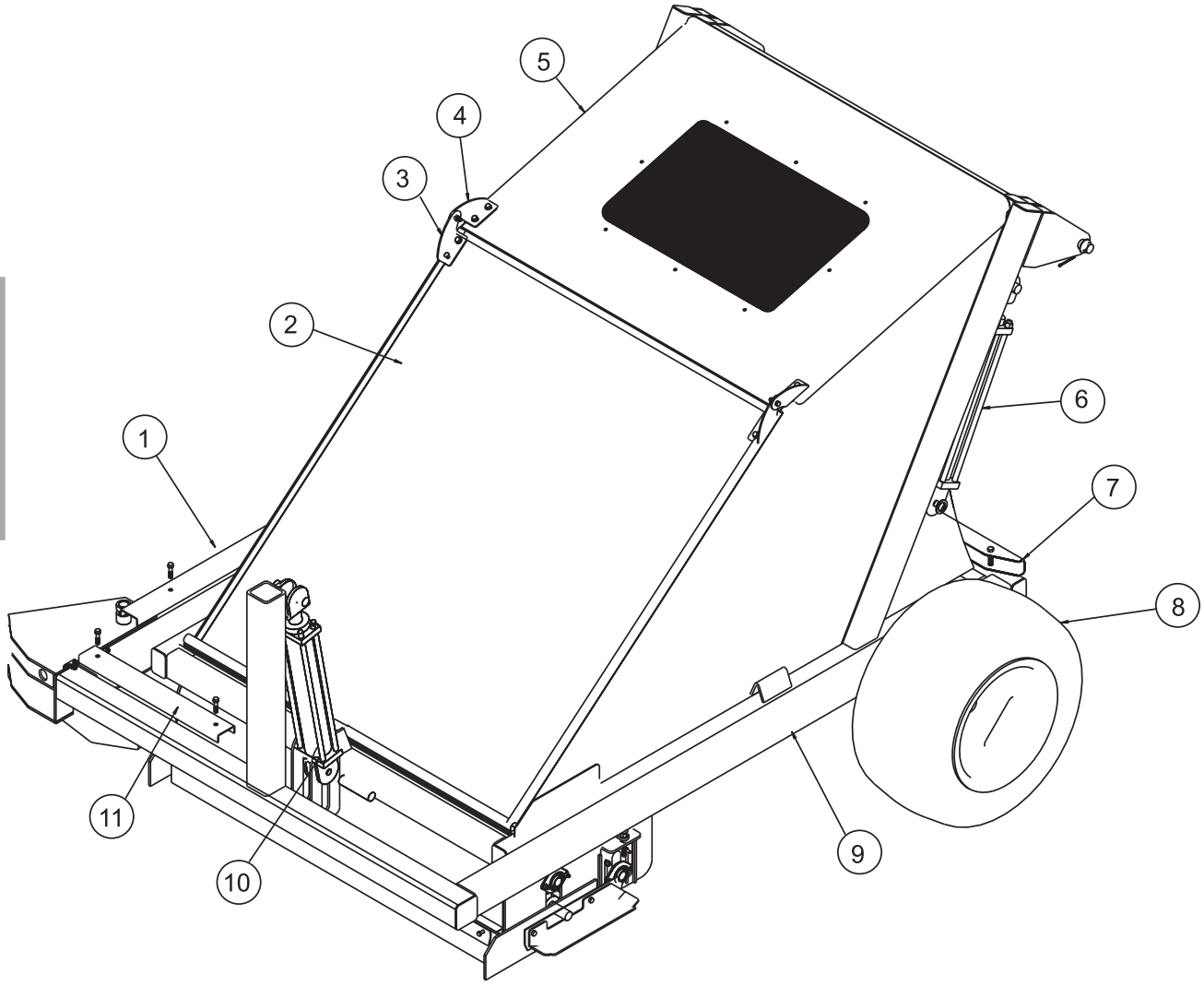
P48HHL HIGH DUMP HYDRAULIC DRAWING



P48HHL HIGH DUMP HYDRAULIC PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	76-242	Hydraulic Cylinder	1
	23-167	Elbow	2
2	7-838	Hydraulic Hose 68"	1
3	7-837	Hydraulic Hose 102"	1
4	76-242	Hydraulic Cylinder	1
	23-167	Elbow	2
	23-188	Male Connector 3/8 (bottom)	1
	18-190	Tee (top)	1
5	7-839	Hydraulic Hose 106"	1
6	7-840	Hydraulic Hose 91"	1
7	18-173	Tee 3/8 Union	2
8	7-841	Hydraulic Hose 43"	1
9	7-842	Hydraulic Hose 34"	1
10	7-834	Hydraulic Cylinder	1
	23-167	Male Elbow	2
11	7-833	Hydraulic Motor	1
12	7-843	Hydraulic Hose 43"	2
13	7-844	Hydraulic Hose 58"	2

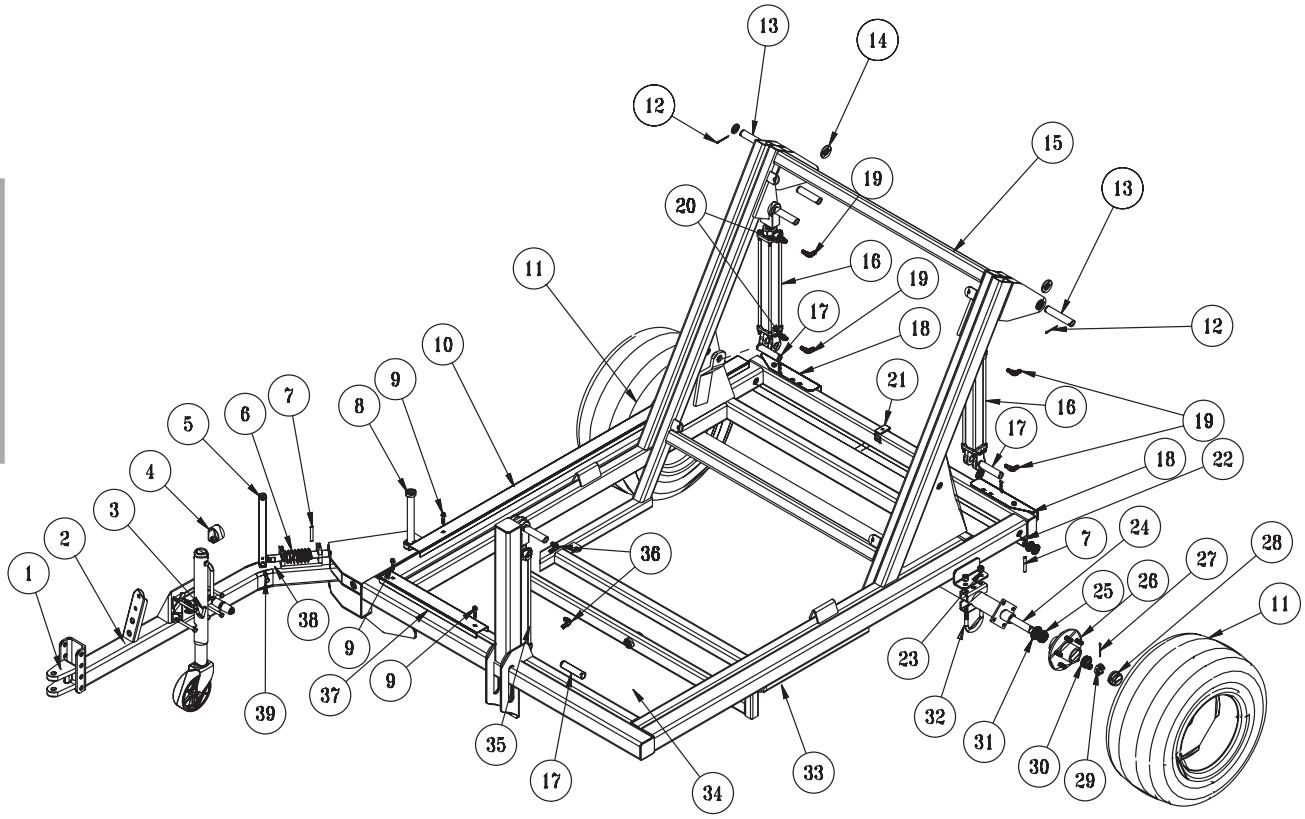
SWEEP STAR P48HHL HIGH DUMP HYDRAULIC DRIVE DRAWING



SWEEP STAR P48HHL HIGH DUMP HYDRAULIC DRIVE PARTS LIST

	REF#	PART#	DESCRIPTION	QUANTITY
	1	7-818	Side Hose Guard	1
	2	7-808	Hopper Assembly	1
	3	7-826	Right Hinge Bracket	2
	4	7-827	Left Hinge Bracket	2
	5	7-829	Hopper Door	1
		7-830	Screen Door	1
		7-831	Screen Cover	1
	6	76-242	Hydraulic Cylinder	2
-	7	75-653	Hopper Lift Safety Bar	2
	8	7-832	Tire & Wheel	2
		16-225-01	Tire 24 x 13 x 12	2
		72-042-02	Wheel	2
	9	7-805	Main Frame	1
	10	7-834	Hydraulic Cylinder	1
	11	7-817	Front Hose Guard	1

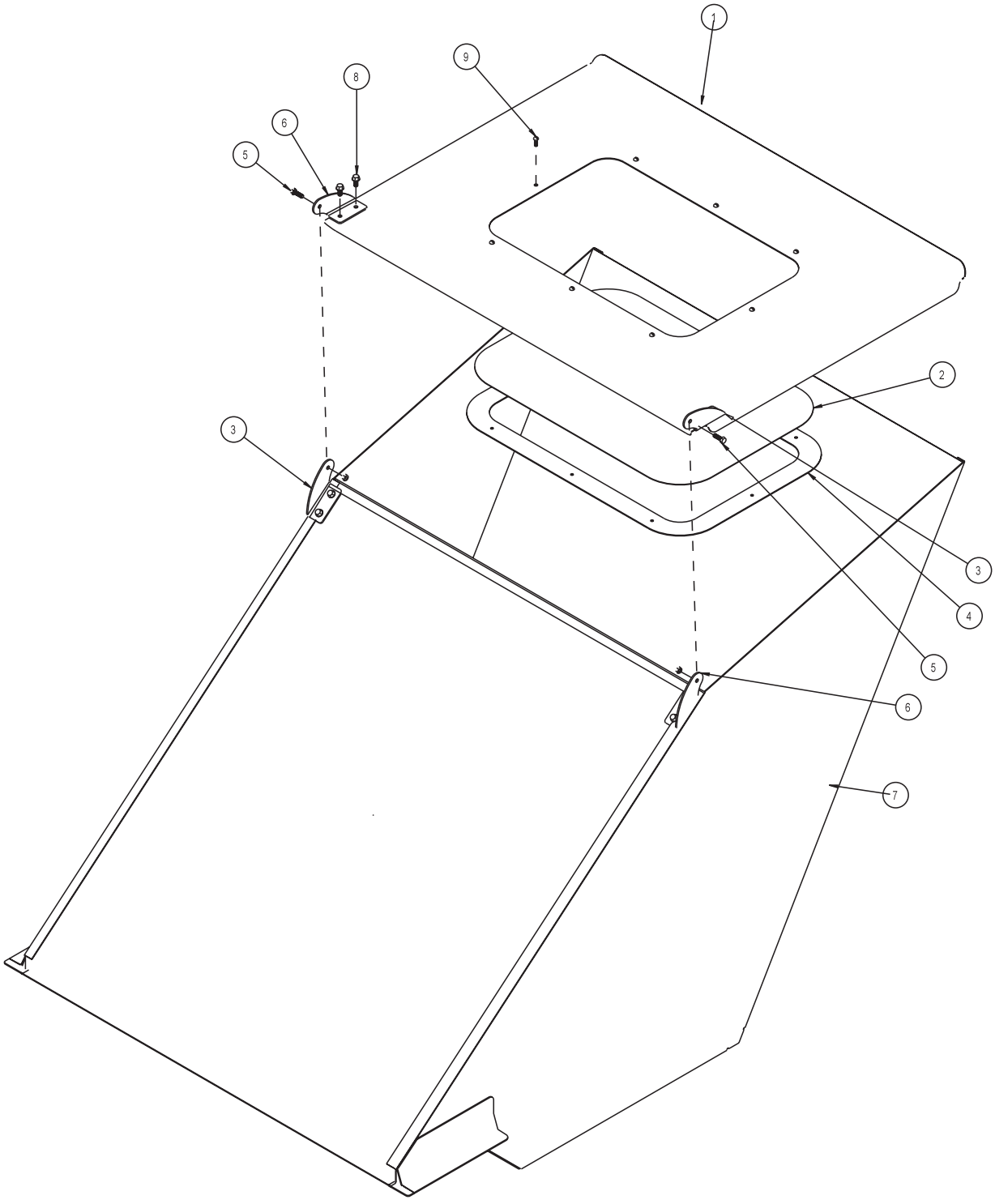
MAIN FRAME P48HHL HIGH DUMP DRAWING



MAIN FRAME P48HHL HIGH DUMP PARTS LIST

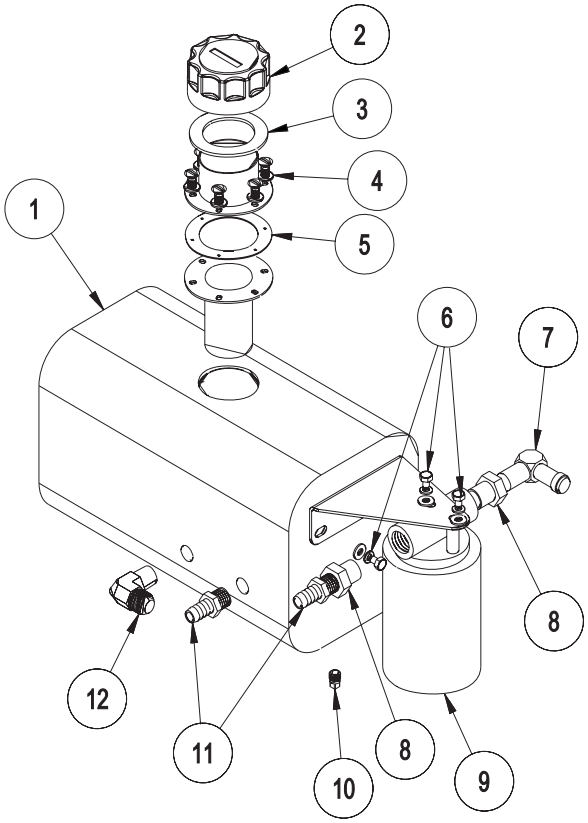
REF#	PART#	DESCRIPTION	QUANTITY
1*	33-073-01	Grease Seal	2
2	20-181	U-Bolt	2
3	7-805	Main Frame	1
4	7-869	Inside Frame	1
5	7-834	Hydraulic Cylinder	1
6	23-167	Male Elbow	2
7	7-817	Front Hose Guard	1
8	7-814	Pivot Arm	1
	HP-316-200	Cotter Pin 3/16 x 2	1
9	HB-516-18-150	Bolt 5/16 -18 x 1 1/2	4
	HWL-516	Lock Washer 5/16	4
10	7-818	Side Hose Guard	1
11	7-832	Tire and Wheel	2
	16-225-01	Tire Only 24 x 13 x 12	2
	72-042-02	Wheel Only	2
12	HHP-18-100	Bridge Pin 1/8 x 1	4
13	HCP-100-500	Clevis Pin 1 x 5	2
14	HW-100	Washer 1"	2
15	7-807	Hopper Sub Frame	1
16	76-242	Hydraulic Cylinder	2
17	HCP-100-400	Clevis Pin 1 x 4	2
	11-092	Spacer	4
	HMB-100-14	Machine Bushing 1 x 14GA	4
18	75-653	Hopper Lift Safety Bar	2
	75-651	Decal, Hopper Lift Safety Bar	2
	HB-38-16-250	Bolt 3/8 - 16 x 2 1/2	2
	HNW-38-16	Wing Nut 3/8 - 16	2
19	23-167	Elbow 3/8	4
20	23-188	Male Connector 3/8	2
21	13-652	Hose Clamp	1
22	7-828	Frame Pivot Shaft	1
	HMB-100-10	Machine Bushing 1 x 10GA	4
	HRP-38-250	Roll Pin 3/8 x 2 1/2	2
23	HN-12-20	Nut 1/2 - 20	4
	HWL-12	Lock Washer 1/2	4
24*	72-048	Axle (includes all * item)	1
25*	78-118	Inner Bearing	2
26*	33-073	Hub Assembly	2
27	HP-18-200	Cotter Pin 1/8 x 2	2
28*	33-072-03	Dust Cap	2
29	HNAR-100-14	Slotted Jam Nut 1-14	2
30*	78-119	Outer Bearing	2

HIGH DUMP HOPPER DRAWING

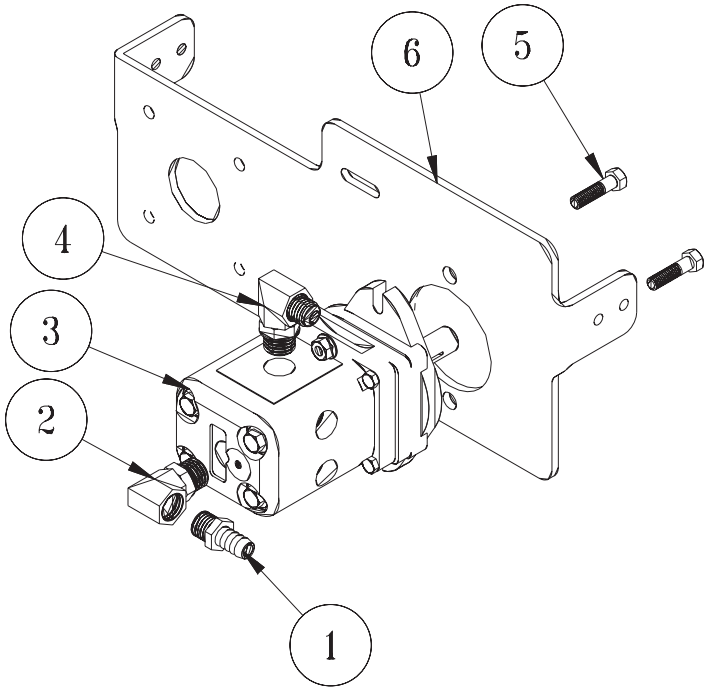


REF#	PART#	DESCRIPTION	QUANTITY
1	7-829	Hopper Door	1
	8803-44	Trim	1
2	7-831	Screen Cover	1
3	7-826	Right Hinge Bracket	2
4	7-830	Screen Door	1
5	HB-516-18-100	Bolt 5/16- 18 -1	2
	HNTL-516-18	Lock Nut 5/16 - 18	2
6	7-827	Left Hinge Bracket	2
7	7-808	Hopper Assembly	1
	HB-38-16-100	Bolt 3/8 -16 x 1	6
	HW-38	Washer 3/8	6
	HNFL-38-16	Flange Whiz Lock Nut 3/8 - 16	6
8	HBFL-516-18-075	Flange Whiz Bolt 5/16 -1 8 x 3/4	4
	HNFL-516-18	Flange Whiz Lock Nut 5/16 - 18	4
9	HSTP-14-20-075	Phillips Machine Screw 1/4 - 20 x 3/4	8
	HNFL-14-20	Flange Whiz Lock Nut 1/4 - 20	8

HYDRAULIC OIL TANK AND FILTER DRAWING



HYDRAULIC PUMP DRAWING



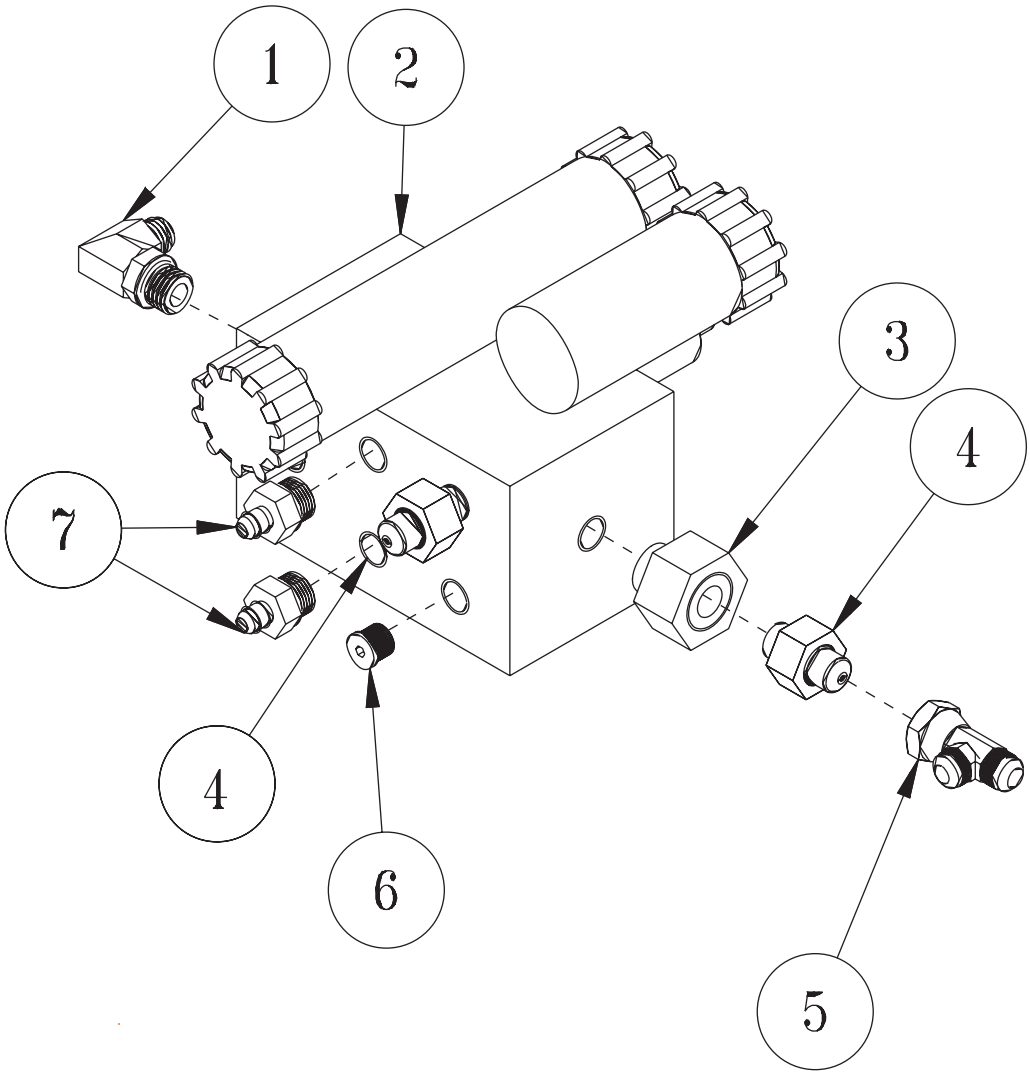
HYDRAULIC OIL TANK AND FILTER PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	13-584	Oil Tank	1
2	13-586	Filler Breather (includes all * items)	1
3*	13-586-01	Cap Gasket	1
4*	HSM-8-32-050	Machine Screw #8 -32 X 1/2	6
	HWS-8	Star Washer #8	6
5*	13-582-02	Bottom Gasket	1
6	HB-14-20-075	Bolt 1/4 -20 x 3/4	4
	HW-14	Washer 1/4	4
	HWL-14	Lock Washer 1/4	4
7	23-142	90° Barb Fitting	1
8	18-008	Reducer	2
9	23-006	Oil Filter	1
	23-031	Replacement Filter	
10	18-118	Plug	1
11	23-139	Barb Fitting	2
12	18-246	Adapter	2

HYDRAULIC PUMP PARTS LIST

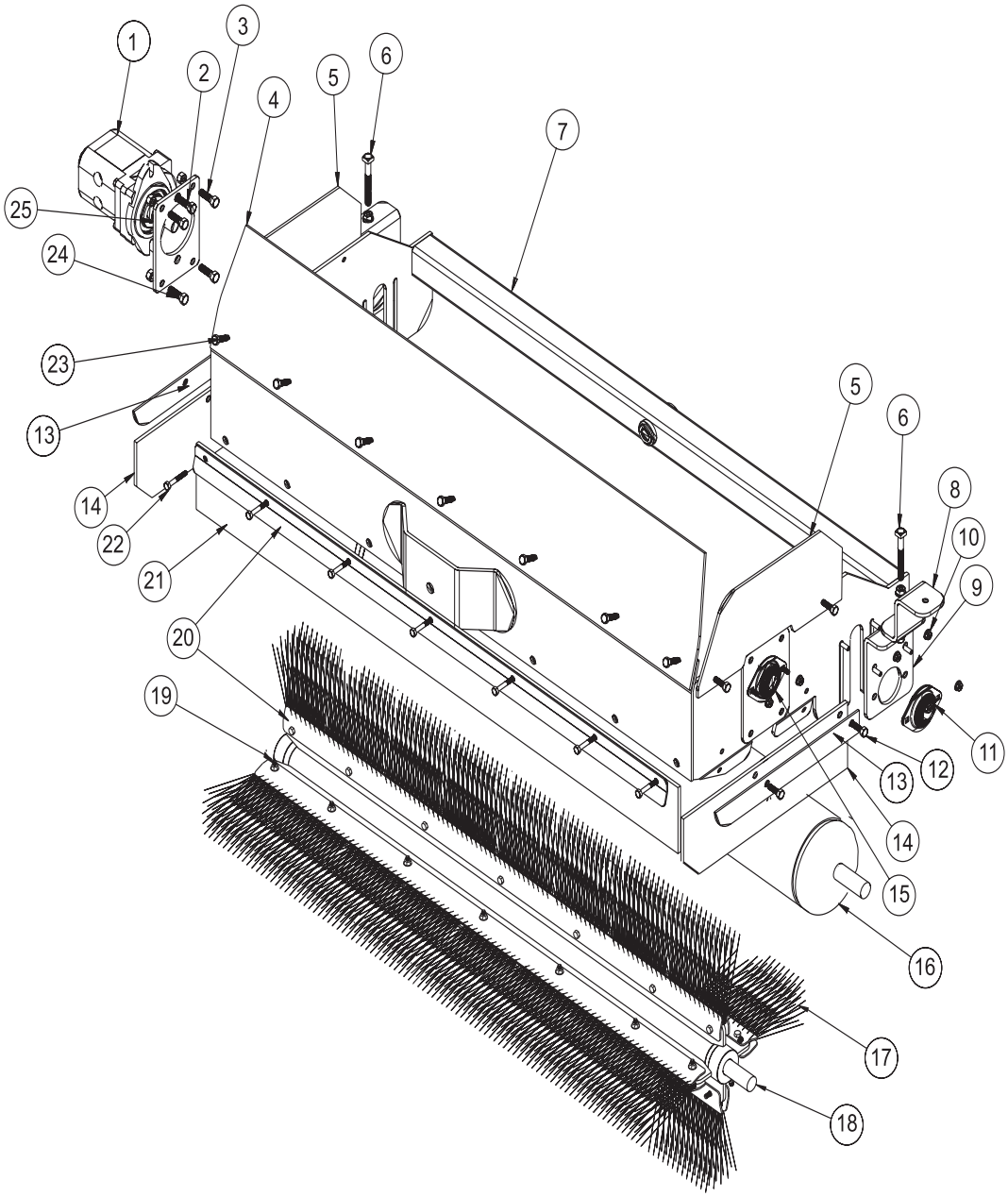
REF#	PART#	DESCRIPTION	QUANTITY
1	23-139	Barb Fitting	1
2	23-127	90° elbow	1
3	7-712	Hydraulic Pump	1
4	23-189	Elbow	1
5	HB-38-16-100	Bolt 3/8 - 16 x 1	2
	HWL-38	Lock Washer 3/8	2
	HNFL-38-16	Flange Whiz Lock Nut 3/8 - 16	2
6	7-718	Pump Mount	1

MANIFOLD VALVE DRAWING



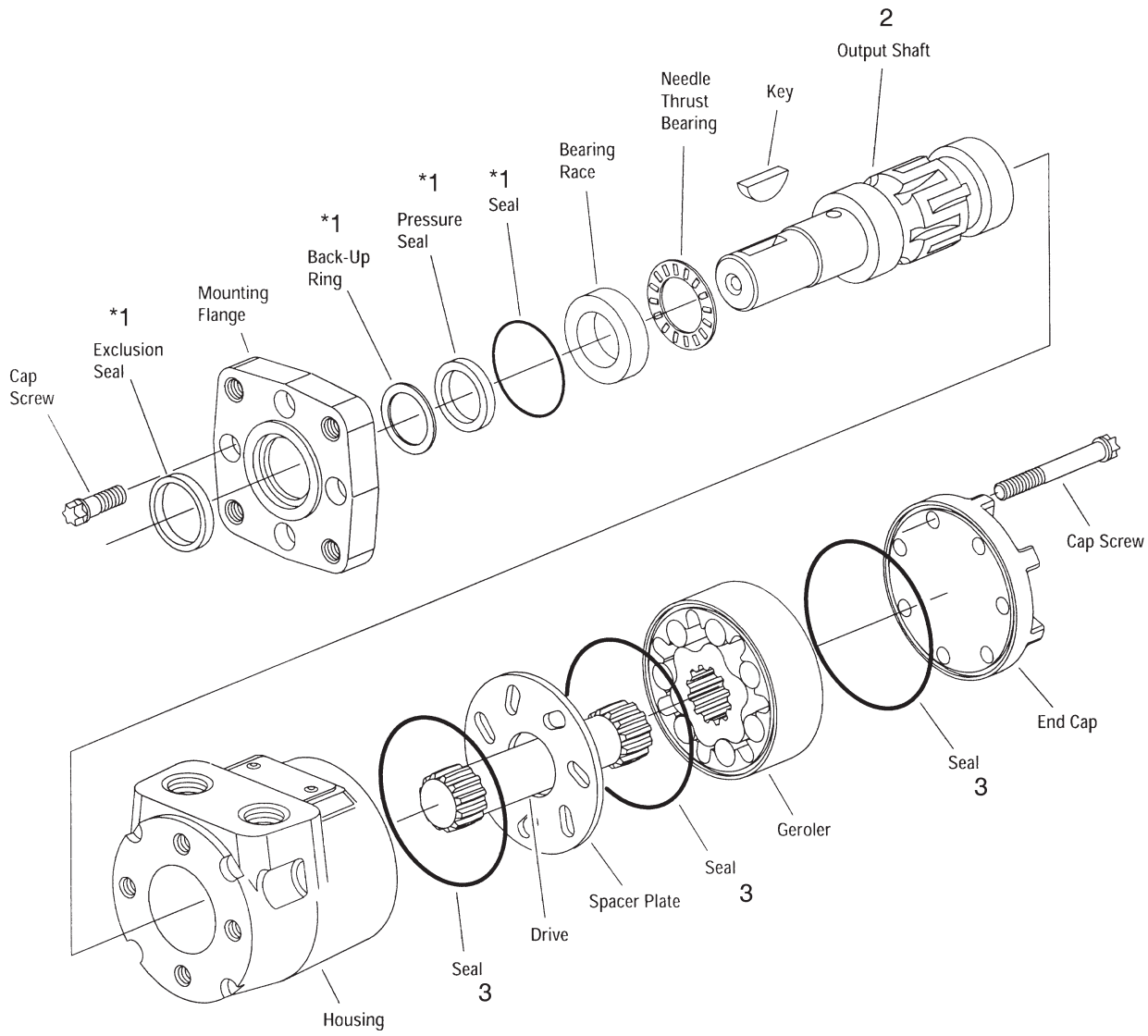
REF#	PART#	DESCRIPTION	QUANTITY
1	23-189	Elbow	1
2	7-711	Manifold Valve	1
3	18-176	Reducer	1
4	18-227	Adapter	2
5	18-337	Run Tee	1
6	18-228	Hex Plug	1
7	18-241	Adapter	2

REEL DRAWING



REF#	PART#	DESCRIPTION	QUANTITY
1	7-833	Hydraulic Motor	1
2	HB-12-13-175	Bolt 1/2 - 13 x 1 3/4	1
	HNTL-12-13	Lock Nut 1/2 - 13	1
3	HB-38-16-125	Bolt 3/8 - 16 x 1 1/4	4
	HNFL-38-16	Flange Whiz Lock Nut 3/8 - 16	4
4	7-874	Front Flap	1
5	7-873	Side Flap	2
6	HSSQ-38-16-300	Square Head Set Screw 3/8 - 16 x 3	2
	HNFL-38-16	Flange Whiz Lock Nut 3/8 - 16	6
7	7-868	Pick Up Head - Swivel	1
8	7-870	Swivel Limit Bracket	1
9	7-822	Roller Adjustment Plate	2
10	HB-516-18-100	Bolt 5/16 -18 x 1	8
	HNFL-16-18	Flange Whiz Lock Nut 5/16 -18	8
11	13-391	Flange Bearing 1"	3
12	HB-516-18-100	Bolt 5/16 - 18 x 1	4
	HNFL-516-18	Flange Whiz Lock Nut 5/16 -18	4
13	7-875	Flap Bracket	2
14	9009-16	Belting 16"	2
15	HB-14-20-100	Bolt 1/4 - 20 x 1	2
	HNFL-14-20	Flange Whiz Lock Nut 1/4 - 20	2
16	7-809	Roller Assembly	1
17	48-086	Brush	8
18	7-812	Brush Reel	1
19	HB-14-20-150	Bolt 1/4 - 20 x 1 1/2	28
	HNTL-14-20	Lock Nut 1/4 - 20	28
20	7-825	Brush Holder Strip	9
21	9009-47	Belting 47"	1
22	HB-14-20-175	Bolt 1/4 - 20 x 1 3/4	7
	HNTL-14-20	Lock Nut 1/4 - 20	7
23	HSTP-14-20-075	Truss Head Screw 1/4 - 20 x 3/4	7
	HNFL-14-20	Flange Whiz Lock Nut /4 - 20	7
24	HB-12-13-150	Bolt 1/2 - 13 x 1 1/2	1
	HNTL-12-13	Lock Nut 1/2 - 13	1
25	7-871	Hydraulic Motor Plate	1

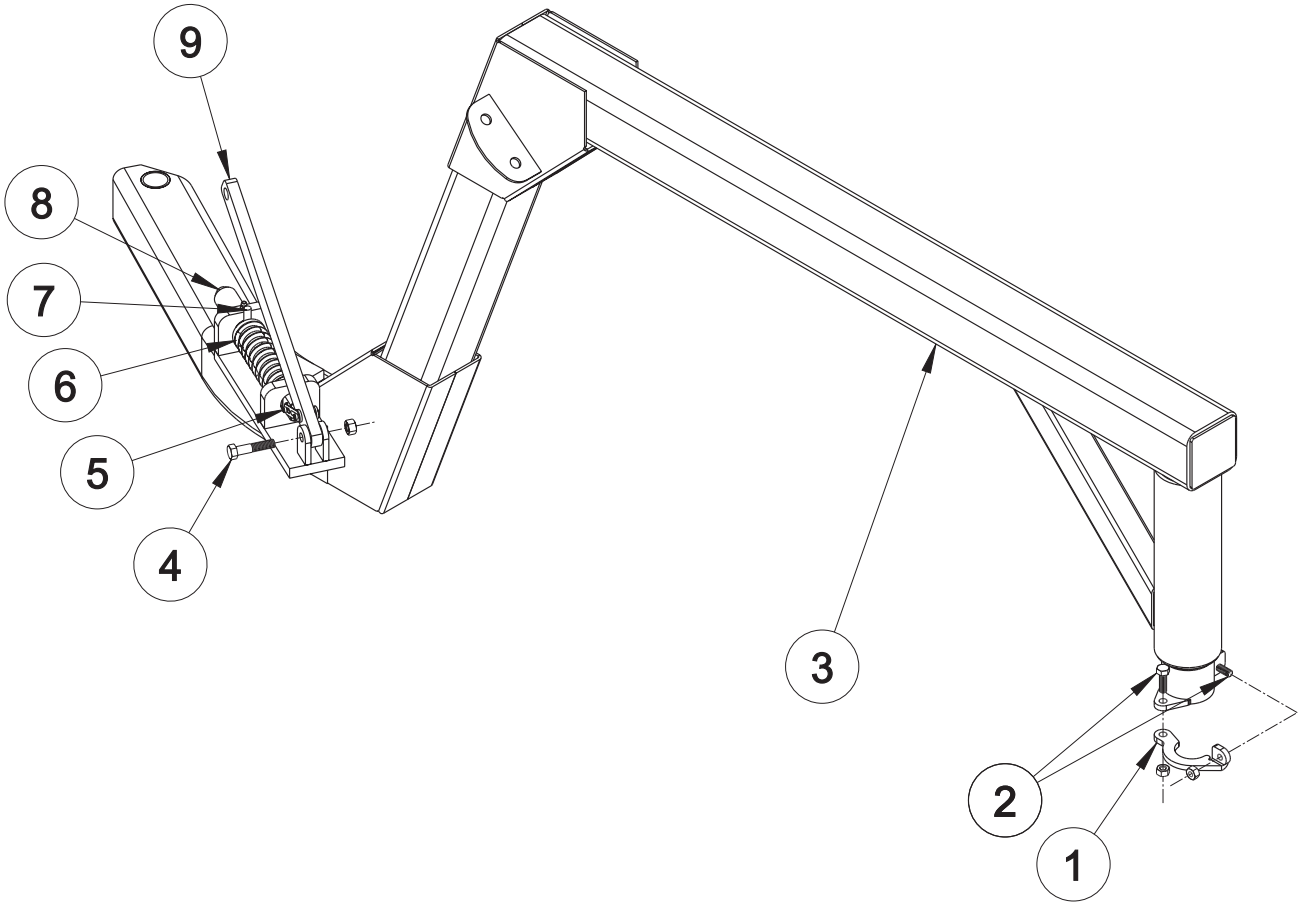
7-833 HYDRAULIC MOTOR DRAWING



7-833 HYDRAULIC MOTOR PARTS LIST

REF#	PART#	DESCRIPTION	QUANTITY
1	7-833-01	O-Ring Seal Kit	1
2	7-833-02	Shaft	1
3	7-833-03	Seal	3

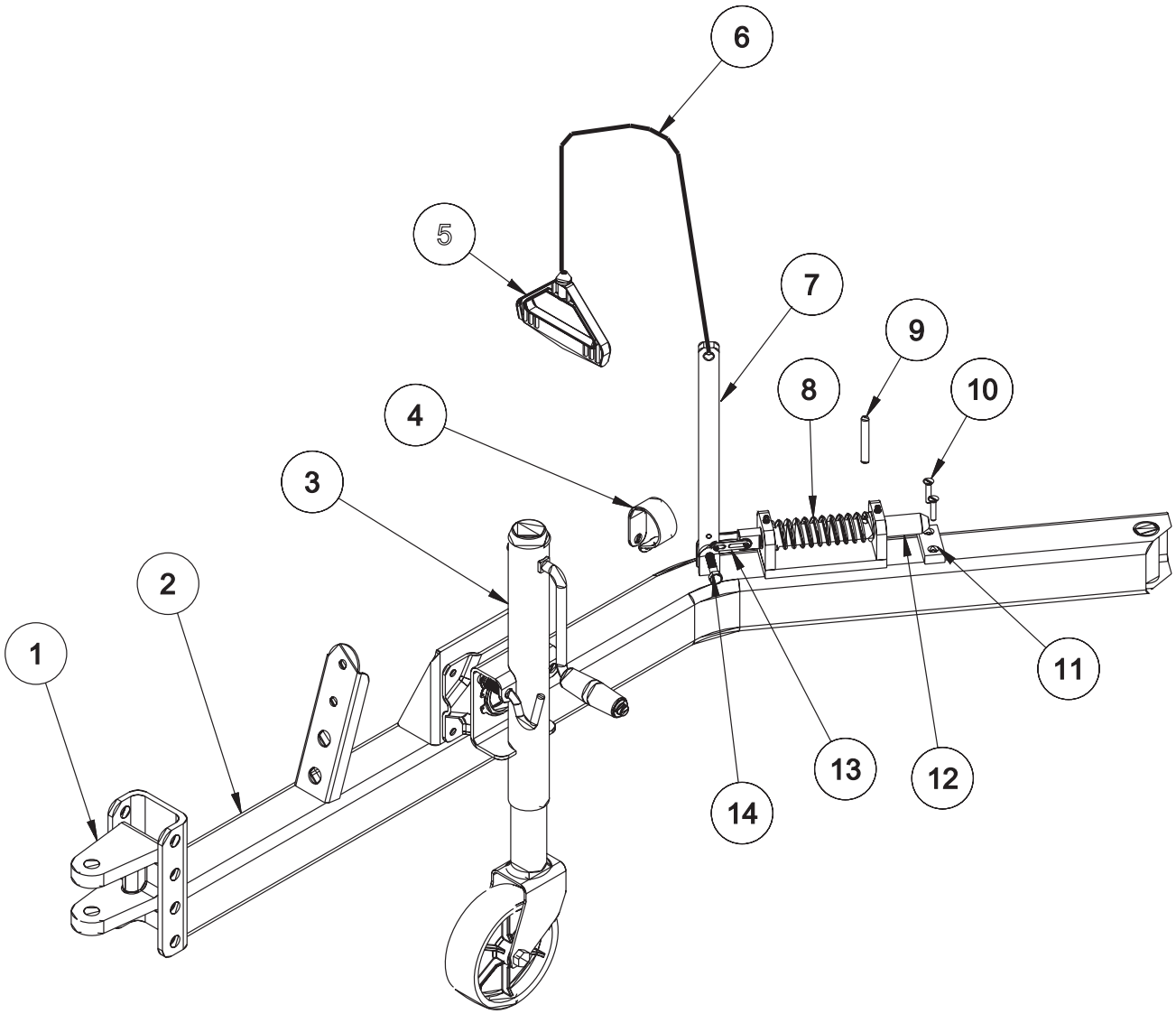
7-702 5TH WHEEL HITCH ASSEMBLY



7-702 5TH WHEEL HITCH ASSEMBLY

REF#	PART#	DESCRIPTION	QUANTITY
1	78-390	Ball Lock Arm	1
2	HB-516-18-100	Bolt $^{5}/_{16}$ - 18 x 1	2
`	HNTL-516-18	Lock Nut $^{5}/_{16}$ - 18	2
3	7-725	5th Wheel Gooseneck	1
	HG-14-28-180	Grease Fitting	1
4	HB-38-16-175	Bolt $^{3}/_{8}$ - 16 x $1^{3}/_{4}$	1
	HNTL-38-16	Lock Nut $^{3}/_{8}$ - 16	1
5	13-417	Master Link	1
6	16-918	Coil Spring	1
7	HRP-38-250	Roll Pin $^{3}/_{8}$ x 1	1
8	7-815	Lock Pin	1
9	7-816	Lock Handle	1
	9011-40	Rope, 10'	1
	7-835	Mitten Grip	1

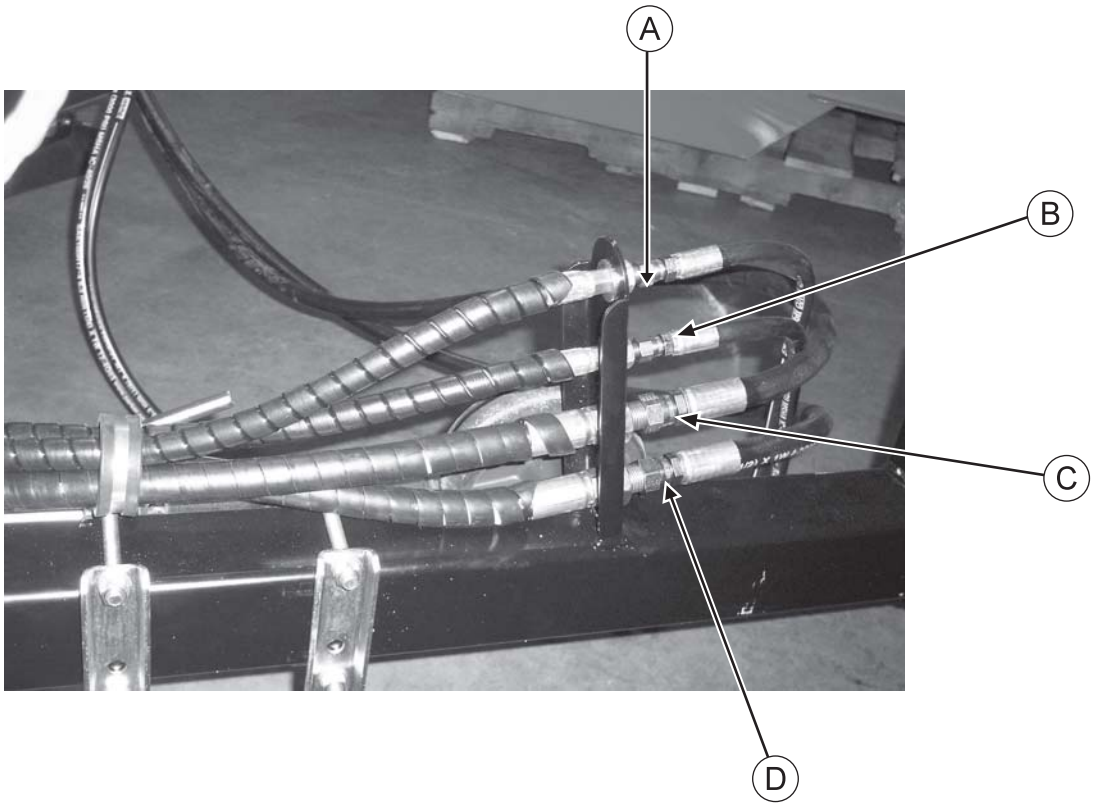
7-703 STANDARD HITCH ASSEMBLY



7-703 STANDARD HITCH ASSEMBLY

REF#	PART#	DESCRIPTION	QUANTITY
1	78-244	Clevis Assembly	1
2	7-813	Tongue Assembly	1
3	5-036	Trailer Jack	1
4	HLC-A-200	Loom Clamp	1
5	7-835	Mitten Grip	1
6	9011-10	1/4" Poly Rope 10' Long	1
7	7-816	Lock Handle	1
8	16-918	Coil Spring	1
9	HRP-38-250	Roll pin 3/8 x 2 1/2	1
10	HSMFCS-14-20-100	Machine Screw 1/4 - 20 x 1	2
11	7-860	Wearstrip Tongue Bracket	1
12	7-815	Hitch Lock Pin	1
13	13-417	Connector Link	1
14	HB-38-16-175	Bolt 3/8 - 16 x 1 3/4	1
	HNTL-38-16	Lock Nut 3/8 -16	1

7-850 P48 HOSE KIT FOR JACOBSEN TRUCKSTER



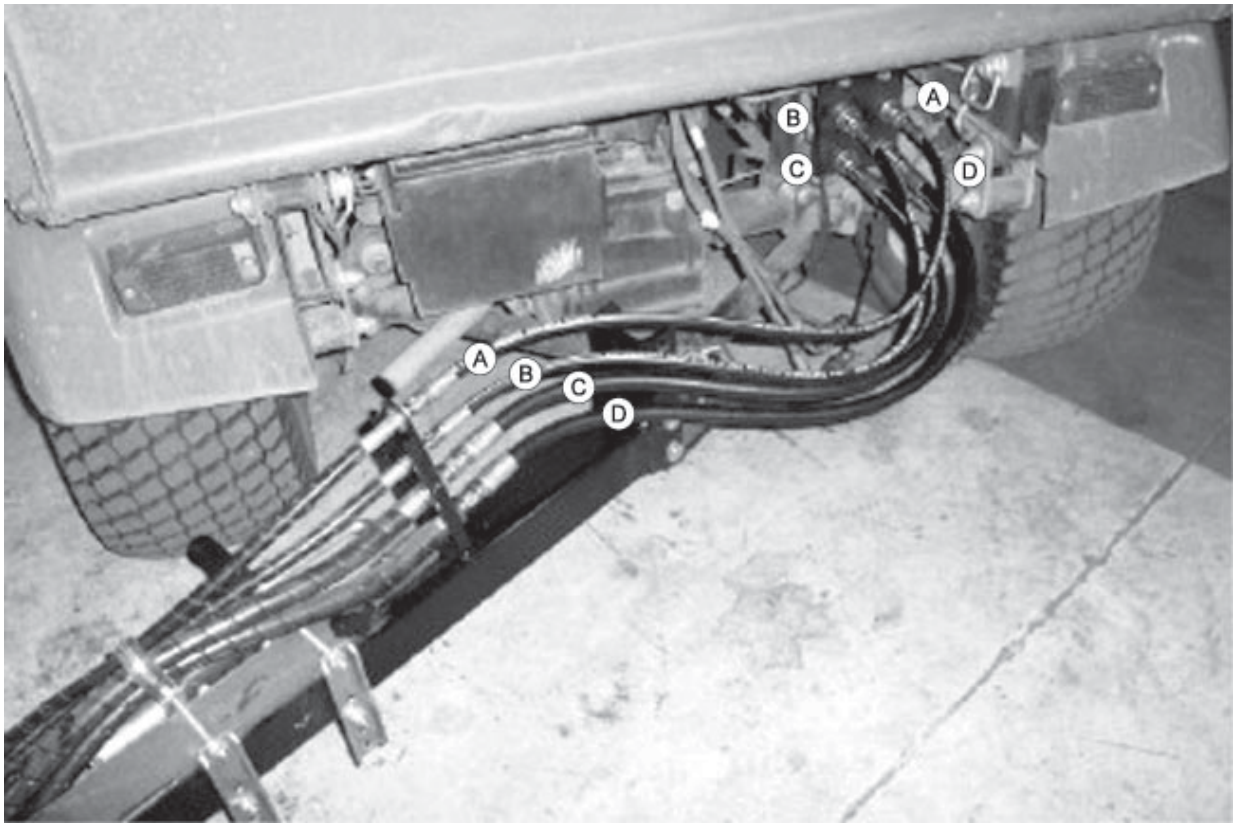
PARTS LIST

REF#	`PART#	DESCRIPTION	QUANTITY
A	7-854	Hydraulic Hose	1
	72-044	Male Coupler	1
B	7-854	Hydraulic Hose	1
	72-045	Female Coupler	1
C	7-855	Hydraulic Hose	1
	18-360	Female Coupler	1
D	7-855	Hydraulic Hose	1
	18-361	Male Coupler	1

INSTALLING SWEEPER ON JACOBSEN TRUCKSTER

1. Adjust hitch height so there is approximately 12" between bottom of tongue and the ground. This will allow the sweeper head the most travel.
2. Make sure sweeper is connected to the tow vehicle with drawbar pin and hitch pin.
3. Raise front of the dump box approximately 4". This will make hose routing easier. Feed the 2 larger hoses over the axle up to the front left leafspring mount, outside of the frame rail and over the oil tank. Then route the 2 smaller hoses over the axle then over the cross member on the left side of the lift cylinder. Make sure hoses are not laying on the exhaust if they are they will need to be tied up or rerouted.
4. The dump box can be lowered, but make sure hoses are not pinched. Then shut Truckster off. Activate lift valve a couple of times to relieve any line pressure.
5. Unhook quick couplers on the inside of the coupler box located behind the seat on the operators side. The small male coupler from the sweeper goes in the top port and the small female coupler connect to the hose that was in the bottom port. Disconnect coupler on the outer left side of the coupler box and connect the two larger hoses from sweeper.
6. Make sure all couplers are connected then start Truckster. If Truckster is equipped with hi/Low hydraulics, make sure it is in low. Never operate sweeper with hydraulic switch in high or brush damage will occur.
7. The control lever for the dump box is used for two functions on the Sweep Star P48. It controls the lift and lower of the sweeper head and the lift and lower of the hopper. By pulling the valve lever back lifts the sweeper head and lower the hopper and when you push the lever forward the sweeper head will lower to the ground until the lift cylinder is bottomed out then the hopper will lift and dump.
8. Next turn on brush by pulling up on the valve knob located just forward and of the dump box control lever. Check for proper brush rotation. Brush must turn counterclockwise looking at it from the hydraulic drive motor side.
9. When using the control lever in the forward position, push it only far enough to lift and lower the hydraulic cylinder. If you push it too far it will go into a float position and nothing will move. Raise and lower sweeper head and hopper 4 or 5 times to remove any air in the hydraulic system. After this check oil level on Truckster, add if needed.
10. Make sure roller height adjustment is set so that the brush is 1/4" off the floor. The 1/4" setting works well for most applications. The adjustment marks on the decals are for reference only, so both sides can be set the same.

7-851 JOHN DEERE PRO GATOR HOSE KIT



PARTS LIST

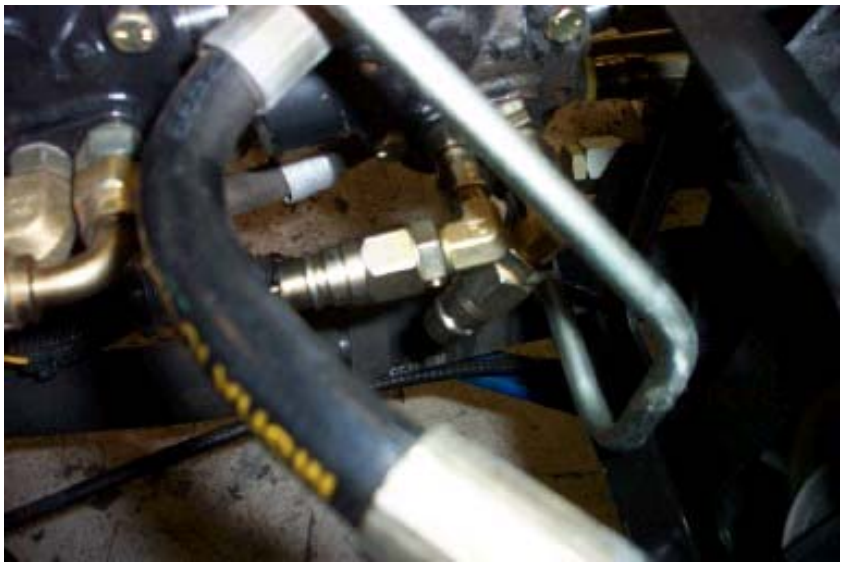
REF#	PART#	DESCRIPTION	QUANTITY
A & B	7-847	Hydraulic Hose	2
C & D	7-878	Hydraulic Hose	2

Coupler ends are not supplied in the kit

1. Remove caps from hose ends on tongue. Install hoses from kit. (See picture)
2. Connect P48 Sweeper to tow vehicle with drawbar pin and hitch pin.
3. Install male coupler ends to all 4 hoses. (Coupler ends are not supplied in the kit). Connect top hose on tongue (A) to top right hand coupler. The second hose from the top (B) to the left hand top coupler. Connect the third hose from the top (C) to the bottom left hand coupler and the bottom hose on the tongue (D) to the bottom right hand coupler.
4. The control lever for the dumpbox is used for the two functions on the P48. It controls the lift and lower of the sweeper head and the lift and lower of the hopper. By pulling the lever back, it lifts the sweeper head and when you push the lever forward it lowers the sweeper head until the hydraulic cylinder is fully extended, then the hopper will lift and dump.
5. The PTO lever is used to turn the brush on and off. **Brush must turn counterclockwise looking at it from the hydraulic drive motor side. Never operator sweeper brush at full engine RPM** or brush failure may result. It will sweep the best at 1500-2500 RPM.
6. After test running the sweeper check and refill hydraulic tank in tow vehicle.
7. Make sure roller height adjustment is set so that the brush is 1/4" off the ground. This works the best for most applications. The adjustment marks on the decal are for reference only. So both sides can be set to the same height.

7-852 P48 HOSE KIT FOR TORO WORKMAN

PICTURE 1



PICTURE 2

PICTURE 3

INSTALLING SWEEPER ON TORO WORKMAN

1. The Sweep Star P48 requires 2 remote hydraulic hose hook ups. So you will have to install quick couplers in the hydraulic lines for the dumpbox on the Toro Workman. These quick couplers are included in the kit. When you are using the Sweep Star P48 the dump box cylinders are unhooked and the lift cylinder hoses from the sweeper are hooked in its place.
2. Raise the dump box. Shut off engine. Set park brake and remove key.
3. Install bed safety supports on the hydraulic cylinders or support box with and overhead hoist.
4. Place oil drain pan directly under hydraulic valve that controls the dump box located on the left hand inside frame rail.
5. Disconnect 4 hoses from the valve that feed the dump box lift cylinder.
6. Next remove the two tee fittings and one adapter from the valve. Save the tee with swivel on one end because it will be used later.
7. Install two 7-867 Adapters into the open ports in the valve and tighten them in.
8. Install 90° elbow fittings into male quick couplers ends and tighten.
9. Connect the quick couplers with the 90° elbows onto adapters in valve. The front one should be straight down and a little back and the back one should be pointed straight back. Tighten all fittings. See Picture 1.
10 Assemble the female quick couplers, adapters and tees. Tighten all fittings. See Picture 2.
11. Connect the two hoses from the bottom end of the lift cylinders to one of the female coupler assembled from step 10. The 45° hose end goes on the side of the tee and the 90° hose end goes on the end.
12 Loosen the hoses on the bottom of the lift cylinders and attach the female quick couplers to the male couplers on the rear port on the valve. You may need to rotate hoses to remove any kinks or twists. Tighten all connections. See Picture 3.
13. Connect the two hoses from the rod end of the lift cylinders to the other female coupler assembly from step 10. Loosen hoses from cylinders so they can be rotated to remove any kinks or twists. Tighten all connections. See Picture 3.
14 Recheck all connections. Remove safety support or hoist. Lift box up and down several times and check for leaks.
15. With the dump box in the down position and engine shut off, route the two small hoses from the connection on the tongue of the Sweep Star P48 over the tansaxle and up the left side of the frame to the hydraulic valve. Disconnect the hoses with the quick couplers on for the dumpbox and hookup small hoses from the Sweep Star P48. This can be done from the bottom side of the machine behind operators seat.
16. Tie up any hoses that may drag on the ground or contact any hot or moving parts.
17. Connect the 2 remaining larger hoses to the remote hydraulic couplers located in the rear of the Toro Truckster.
18. TO operate P48 Sweeper, use the remote hydraulic lever to turn on the brush and the dump ox lift lever to raise and lower the sweeper head and hopper.
19. Check to see that the brush is rotating counter clockwise looking from the right side. If not switch hoses around in couplers.
20. To raise and lower sweeper head and hopper, use the dumpbox lever. The sweeper head must be lowered all the way before the hopper will dump. The hopper must be lowered all the way before the sweeper head will lift.
21. Check to see that none of the hose or fitting connections are leaking or rubbing against any hot or sharp objects.
22. Once the Sweeper has been tested, check oil level in Toro Truckster and fill to the recommended full mark.
23. Sweeper brush must be in the off position before lifting the sweeper head and hopper.

7-845	Decal, Sweep Star P48	Hopper Sides
7-846	Decal, Roller Adjustment	Roller Height Adjustment Plates
16-088	Decal, Moving Parts / Hot	Reel
25-286	Decal, Pinch Point	Front Reel Deck, Rear Hopper
25-358	Decal, Smithco 2.25 x 12	Main Frame Sides
25-359	Decal, Smithco 3.25 x 17	Rear Hopper
27-097	Decal, Oil	OilTank
76-304	Decal, Crush Points	Hopper
76-305	Decal, Rotating Parts	Reel Housing
75-651	Hopper Lift Safety Bar	Rear frame Hopper Lift Safety Bars

EC DECLARATION OF CONFORMITY

according to Directive 89/392/EEC

We **SMITHCO INC.**

(Name of supplier)

34 West Ave. Wayne, PA 19087 USA

(Full address of the manufacture - authorized representative established in the Community must also give the business name and address of the manufacture)

declare under our sole responsibility, that the product

Sweep Star P48 Hydraulic Drive High Dump / 7-800-B
Sweep Star P48 Engine Drive High Dump / 7-700-B
Sweep Star P48 Hydraulic Drive Low Dump / 7-600-A

(Make, Model)

to which this declaration relates corresponds to the relevant basic safety and health requirements of the Directive 89/392/EEC,
(if applicable)
and to the requirements of the other Directives:

EN292-1
EN292-2
EN294
EN349

(Title and/or number and date of issue of the other Directives)
(if applicable)
For the relevant implementation of the safety and health requirements mentioned in the Directives, the following standard(s) and/or technical specification(s) has (have) been respected:

ISO 37-1983
PREN 836
ISO 1219-1976
SAE HS-2800
SAE J1362

(Title and/or number and date of issue of standard(s) and/or technical specification(s))

Cameron, Wisconsin USA
March 19, 1995
(Place and date of issue)

(Name, function and signature of the authorized person)

QUICK REFERENCE REPLACEMENT PARTS

REPLACEMENT FILTERS

23-031 Hydraulic Oil Filter

SEAL KITS

76-242	Hydraulic Cylinder
76-242-01	Seal Kit
78-255	Hydraulic Cylinder
7-834	Hydraulic Cylinder
76-242-01	Seal Kit
7-833	Hydraulic Motor
7-833-01	O-ring Seal Kit
72-077	Hearing Protection

BATTERY (NOT SUPPLIED)

Battery (not supplied) U1-300 AMP

HYDRAULICS

Minimum Hydraulic working pressure 2000 PSI (13790 kPa) at 6 gpm (22.7 lpm)
Supply pressure not to exceed 2250 PSI (15513 kPa) at 10 gpm (37.9 lpm)

LIMITED WARRANTY

SMITHCO warrants this product to be free from defects in material and workmanship under normal use for one year from the date of purchase by the original user. (60 days if product is used for rental purposes.) All warranty claims must be handled through a SMITHCO authorized dealer or by SMITHCO, INC. All transportation charges must be paid by the purchaser.

There is no further express warranty. All implied warranties, including those of merchantability and fitness for a particular purpose, are limited to one year, (60 days if product is used for rental purposes) from the date of purchase by the original user, and to the extent permitted by law any and all implied warranties are excluded and disclaimed after the expiration of such period.

All incidental and consequential damages, including pickup and delivery of the unit, communication, mileage charges and/or rental of a replacement unit during repair, are not covered under this warranty, nor is any loss of income and/or other loss resulting from the failure of the product to function due to a warranty defect.

The following items are not covered under the SMITHCO warranty, and are warranted by their respective manufacturer.

(a) Engine and engine parts, including starters, generators, alternators and filters.
(b) Transaxle, differentials, gear boxes and mechanical pumps.
(c) Hydrostatic transmissions, hydraulic pumps and motors.
(d) Batteries.
(e) Wheels and tires.

A copy of the warranty for the above items is furnished if necessary with each SMITHCO product.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitations of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which may vary from state to state.

Federal law now requires disclosure of the warranty which applies to this product prior to the sale to a customer. Please leave this statement attached to the product and allow the buyer to remove it after purchase.

SMITHCO
Wayne, Pennsylvania 19087

SMITHCO